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CONTENTS.

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HUNTERIAN LECTURES
on Infantilism. Delivered before the Royal College of Surgeons of England on Feb. 2nd and 4th, 1914, by HASTINGS GILFORD, F.R.C.S. Eng. — Lecture I. — *(Illustrated)* 557

ORIGINAL ARTICLES.

The Morbid Anatomy of Tuberculosis in Man. By THEODORE SHENNAN, M.D. Edin., F.R.C.S.Edin., Pathologist, Royal Infirmary, Edinburgh; University Lecturer on Morbid Anatomy, &c.—*(Illustrated).* — *(To be concluded)* 566

A Comparison of the Actions of Chloroform and Ether on the Blood Pressure. By H. P. FAIRLIE, M.D. Glasg., Anæsthetist to the Royal and Western Infirmaries, Glasgow.—*(Illustrated)*..... 603

A Case of Chronic Joint Lesions in Hæmophilia. By D. W. CARMALT JONES, M.D. Oxon., Physician to Westminster Hospital. — *(Illustrated)*..... 606

On Three Cases of Eczematous Dermatitis Produced by Poisonous Plants. By ARTHUR WHITFIELD, M.D. Lond., F.R.C.P. Lond., Physician for Diseases of the Skin, King's College Hospital 607

The Fate of a Plug of Iodoform Gauze Accidentally Left in the Abdomen. By A. E. MAYLARD, M.B., B.S.Lond., F.R.F.P.S. Glasg., Surgeon to the Victoria Infirmary, Glasgow 608

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE:
SECTION OF OBSTETRICS AND GYNÆCOLOGY:—Exhibition of Specimens.—Three Cases of Cæsarean Section. — Uncontrollable Uterine Hæmorrhage 609
SECTION OF ANÆSTHETICS:—Intratracheal Anæsthesia... 610
SECTION OF OPHTHALMOLOGY: —Sympathetic Ophthalmia. —The Use of Salvarsan in Ophthalmic Practice..... 611
SECTION OF PATHOLOGY:—The Pathological Changes of the Thyroid in Disease. —Channels of Spread in Bacterial Infection. — Changes in Malignant Tumours on Exposure to the Gamma Rays of Radium 611
SECTION OF OTOLOGY:—Exhibition of Cases..... 612
MEDICAL SOCIETY OF LONDON: Exhibition of Clinical Cases and Pathological Specimens 612
NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY: Exhibition of Clinical Cases.. 614
ROYAL ACADEMY OF MEDICINE IN IRELAND: Fibromyoma.—Laceration of the Perineum and its Operative Treatment..... 615
ULSTER MEDICAL SOCIETY: Some Less-known Points in Pleural Effusion.—Surgery of the Gall-bladder and Bile Ducts 616
ÆSCULAPIAN SOCIETY: Exhibition of Cases..... 617
SOCIETY OF MEDICAL OFFICERS OF HEALTH: Use of Refrigeration in the Preservation of Foods..... 617
UNITED SERVICES MEDICAL SOCIETY: Siege of Ladysmith..... 617
CARDIFF MEDICAL SOCIETY. Exhibition of Cases and Specimens 618
LONDON DERMATOLOGICAL SOCIETY: Exhibition of Cases..... 618

REVIEWS AND NOTICES OF BOOKS.

Blood Pressure in General Practice. By Percival Nicholson, M.D..... 618
Geschichte der Biologischen Theorien in der Neuzeit. Von Dr. Em. Rádl..... 618
Noted Murder Mysteries. By Philip Curtin..... 619
A Course of Lectures on Medicine to Nurses. By Herbert E. Cuff, M.D.Lond., F.R.C.S. Eng. Sixth edition..... 620
Annals of Tropical Medicine and Parasitology. Series T.M. Vol. VII..... 620
Lectures on Medical Electricity to Nurses. By J. Delpratt Harris, M.D.Durh., M.R.C.S. Eng..... 620
The Quarterly Journal of Medicine. Edited by William Osler, J. Rose Bradford, A. E. Garrod, R. Hutchison, H. D. Rolleston, and W. Hale White. Vol. VII..... 620
The Military Surgeon. Published by the Association of Military Surgeons of the United States, Washington, D.C. Editor, Major Charles Lynch, U.S. Army..... 621
Miscellaneous Volumes..... 621

NEW INVENTIONS.

A Semi-Automatic Abdominal Retractor.—*(Illustrated)* 622
The Hamilton Combined Canteen and Filter..... 622

LEADING ARTICLES.

THE HOUSING CONDITIONS IN DUBLIN 623
THE VALUE OF A SCIENTIFIC EDUCATION..... 624
INDUSTRIAL ANTHRAX 625

ANNOTATIONS.

A Complimentary Dinner to Surgeon-General Gorgas 626
The Craze for Hypodermic Medication in Italy..... 626
Metropolitan Asylums Board: the Position of Assistant Medical Officers..... 627
Treatment of Epithelioma by Sunlight..... 627
Mange as a Human Disease..... 627
The Pancake..... 628
Laryngeal Paralysis in Mitral Disease..... 628
A Simple and Effective Method of Disinfecting Typhoid Stools..... 628
Hyperplasia of the Mucous Membrane of the Upper Respiratory Tract 629
The House of the Royal Society of Medicine..... 629
Tumours of the Prefrontal Region of the Brain..... 629
Yellow Fever and Infected Ships..... 630

VITAL STATISTICS:
Health of English Towns..... 633
Health of Scotch Towns..... 633
Health of Irish Towns 633

SPECIAL ARTICLES.

Medicine and the Law 631
The Home Treatment of Pulmonary Tuberculosis 633
Royal Commission on Venereal Diseases..... 632
The Services..... 634
Medical Practice under the Insurance Act: XXXVIII.—London: The Persistence of Dislike to the Act.—*(To be continued)* 636

HOME AND FOREIGN NOTES.
(FROM OUR OWN CORRESPONDENTS.)

Liverpool..... 637
Manchester..... 638
Bristol..... 638
Scotland 639
Ireland..... 640
Paris 640
Berlin 641
Canada..... 642

CORRESPONDENCE.

An International Institute of Pathology (Mr. W. B. Ainger) 643
The Meiostagmin Reaction in the Diagnosis of Cancer (Dr. Elizabeth T. Fraser)..... 643
Methods of Increasing the Accuracy and Delicacy of the Wassermann Reaction (Dr. James McIntosh and Dr. Paul Fildes)..... 644
The Payment of Female Medical Officers (Dr. Jane Walker and Dr. F. May Dickinson Berry) 644
The Edinburgh Medical Guild (Dr. Frederick Porter) 644
Diabetes Insipidus and Infantilism (Dr. Leonard J. Kidd) 645
Fracture of the External Malleolus (Dr. B. Whitchurch Howell) 645
Glanders in Human Subjects (Dr. Hubert M. Boshouwers) 645
The Rôle of Syphilis in Mental Deficiency and Epilepsy (Dr. W. Rees Thomas)..... 645
London: Organisations Formed to Combat the Act (Dr. Robert Caswell)..... 645
The Public Health (Ophthalmia Neonatorum) Regulations, 1914..... 648
A National Medical Service (Mr. Charles A. Parker)..... 646
Medical Certificates for School Children..... 655
School Medical Officers and the D.P.H. (Dr. J. C. McWalter) 655
An Improved Pelvimeter (Messrs. Allen and Hanburys, Ltd.—Mr. Henry Lewis)..... 655

THE NATIONAL INSURANCE ACT.

The General Medical Council and "Own Arrangements": A Memorandum by Sir Donald MacAlister 648
London Panel Committee 649
Medical Incomes under the National Insurance Act..... 649
Lancashire Insurance Committee..... 649

MEDICAL NEWS.

Central Midwives Board..... 595
Donations and Bequests..... 595
London School of Tropical Medicine 606
The Cancer Hospital..... 618
Royal Medical Benevolent Fund Guild..... 630
Medical Inspection of School Children..... 635
West London Medico-Chirurgical Society..... 638
Literary Intelligence..... 647
The After-Care Association 647
Pass-lists of the University of Oxford and University of Bristol..... 650
The Campaign against Infant Mortality 650
St. George's Hospital..... 660
The Trained Nurses' Annuity Fund..... 650
Association of Assistant Medical Officers of Asylums, England and Wales..... 650
Conference on the Teaching of Anthropology 656

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 650
House of Commons..... 661

Books, &c., received 653
Appointments 653
Vacancies 653
Births, Marriages, and Deaths.. 654
Notes, Short Comments, and Answers to Correspondents... 655
Medical Diary 655
Meteorological Readings 657
Acknowledgment of Communications received 658

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

ADLARD & SON:—
Fenwick .. Wide Resection of the Bladder .... Cover 1

BAILLIÈRE, TINDALL & COX:—
Adams & Cassidy .. Abdominal Diseases.. 5
Bayly ..... Clinical Pathology of Syphilis and Parasyphilis 5
Bigg ..... Indigestion, &c..... 6
Blumfeld .. Anæsthetics 6
Dieulafoy .. Medicine..... 5
French .... Medical Laboratory Methods 5
Freyer .... Enlargement of the Prostate 6
" .... Surgical Diseases of the Urinary Organs 6
Gardner .. Surgical Anæsthesia Cover 1
Harston.... European Children in the Tropics 5
Kraepelin.. Clinical Psychiatry .. 5
Luys..... Gonorrhœa 5
Minett .... Bacteria, &c. 5
Morison .... Sensory and Motor Disorders of the Heart 5
Mummery .. Diseases of Rectum and Anus .. Cover 1
Simon ..... Infection and Immunity..... 5
Thorne .... Nauheim Treatment of Diseases of the Heart..... Cover 1
Tredgold .. Mental Deficiency Cover 1
Vulpius .... Infantile Paralysis .. 5

BALE, SONS & DANIELSSON:—
Cornet .... Acute General Miliary Tuberculosis. Cover 1
" .... Scrofulosis .... " 1
Moullin .... When to Operate in Inflammation of the Appendix.... Cover 1

CASSELL & CO:—
Herman.... Difficult Labour..... 7
Herman & Maxwell .. Diseases of Women .. 7
Morris, Sir M..... Diseases of the Skin 7
Walker .... Genito-Urinary Organs..... 7
Yeo, &c..... Medical Treatment .. 7

CHURCHILL, J. & A.:—
Cripps .... Cancer of the Rectum 6
" .... Diseases of Rectum.. 6
Edwards .. Diseases of Rectum, &c. ..... Cover 1
Fenwick .. Cancer and Tumours Cover 1
" .. Ulcer and its Consequences .. Cover 1
Thorne, Bezly .... Schott Nauheim Treatment of Heart 6

FROWDE AND HODDER & STOUGHTON:—
Jamieson .. The Care of the Skin in Health.... Cover 1
McCann .. Cancer of the Womb, &c. ..... Cover 1

LEWIS:—
Burgess .... Health ..... Cover 1
Fenwick .. Disorders of Digestion, &c. .... Cover 1
" .. Dyspepsia of Phthisis Cover 1
Jones ..... Ionic Medication Cover 1
Moullin .... Enlargement of the Prostate .... Cover 1
" .... The Biology of Tumours .... Cover 1
Scott ..... The Road to a Healthy Old Age .... Cover 1

MACMILLAN & CO.:—
Adami & McCrae .. Text-Book of Pathology 9
Ballance .. Cerebral Decompression in Ordinary Practice 6
Cook, Sir E. The Life of Florence Nightingale 9
Eastman .. Palæontology 9
Houston .. Water Supply 9
New System of Medicine 9
Paton ..... Nervous & Chemical Regulators of Metabolism 9

MEDICAL PUBLISHING CO.:—
Lane, Sir W. A.. Operative Treatment of Fractures 6
" Cleft Palate and Hare Lip 6

MILLS & BOON:—
Ash ..... How to Treat by Suggestion ..... Cover 1

NISBET & CO.:—
Lane, Sir W. A.. Treatment of Chronic Constipation 6

ROUTLEDGE & SONS:—
Hind & Randles .. Handbook of Photomicrography..... 6

SAUNDERS COMPANY:—
Bastedo .... Materia Medica..... 3
Bryan ..... Principles of Surgery 3
Garrison .. History of Medicine.. 3
Mallory .... Pathologic Histology 3
Saunders' Descriptive Catalogue of Books 3
Saunders' New Books ..... Cover 1

UNIVERSITY OF LONDON PRESS:—
Bernstein .. Applied Pathology .. 6
Biggs ..... Ear, Nose, & Throat.. 6
Cole ..... Mental Diseases 6
Stevens .... Diseases of Women .. 6

WRIGHT & SONS (BRISTOL):—
Smith..... Lateral Spinal Curvature and Flat Foot Cover 1

MEDICAL LIBRARIES, &c.:—
Behnke—
Stammering 6
Ketley—
Stammering 6
Matthews Bros.—
Wood: Application of Trusses 6
Squire & Sons—
Squire's Companion..... 29
" London Hospitals 29

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Addenbrooke's Hosp., Cambridge. 77
Bagthorpe Institution & Infirmary 74
Barnwood House Hospital for Mental Diseases, Gloucester 74
Bedford County Hospital..... 73
Birmingham General Dispensary.. 77
Birmingham and Midland Hosp. for Nervous Diseases..... 77
Caterham Asylum..... 74
Central London Ophthalmic Hospital 75
Charing Cross Hospital 75
Chelsea Hospital for Women..... 75
Cheshire Education Committee .. 77
Chester General Infirmary 76
City of Birmingham — Yardley-road Sanatorium 75
City of Westminster Union..... 76
County Borough of Blackburn Education Committee 74
County of London (London County Council) 76
Coventry Education Committee .. 76
Crossley Sanatorium, Cheshire.... 76
Cumberland Infirmary, Carlisle .. 74
Derby County Asylum, Mickleover 74
Dewsbury and District General Infirmary 73
Dorset County Hosp., Dorchester. 74
Dreadnought Hospital, Greenwich 74
Durban Municipality 74
East London Hos. for Children, Shadwell 76
Farringdon General Dispensary .. 76
Hampstead and North-West London Hospital 75
Horton Infirmary, Banbury 73
Hosp. for Epilepsy and Paralysis.. 75
Hospital for Sick Children, Newcastle-upon-Tyne 77
Huntingdonshire County Council. 76
Imperial Bacteriological (Veterinary) Laboratory, Muckersey .. 73
Infectious Hospitals of Metropolitan Asylums Board 76
Kent County Asylum, Chartham.. 73
Kent County Asylum, Maidstone.. 73
King Edward VII. Sanatorium, Midhurst 73
Lancashire County Asylum, Winwick 76
Lancashire County Council and County Borough of Bury..... 79
Leeds Public Dispensary 75
Leicestershire Education Committee 75
Liverpool Infirmary for Children.. 77
London Homœopathic Hospital .. 80
London Lock Hospital 73
London Temperance Hospital 75
Manchester . hildren's Hospital .. 75
Manchester Children's Hospital, Pendlebury 75
Manchester Royal Infirmary 76

APPOINTMENTS—(Continued).
Oldham Royal Infirmary 76
Parish of St. Marylebone 76
Queen Charlotte's Lying-in Hospital 73
Rochdale Infirmary 77
Royal Albert Edward Infirmary and Dispensary, Wigan 75
Royal Australian Navy 76
Royal Devon and Exeter Hospital. 77
Royal Ear Hospital, Soho 77
Royal Free Hos., Gray's Inn-road. 76
Royal Gwent Hospital, Newport.. 74
Royal Halifax Infirmary 77
Royal Hospital for Diseases of the Chest 77
Royal Infirmary, Sheffie'd 75
Royal Infirmary, Sunderland..... 75
Royal National Hospital for Consumption, &c., Ventnor 76
Royal Naval Medical Service..... 76
Royal Sea Bathing Hos., Margate. 75
Royal Southern Hosp., Liverpool.. 75
Royal United Hospital, Bath..... 77
Royal Victoria Hosp., Folkestone 79
St. Mark's Hospital for Cancer .. 76
St. Mary's Hospital for Women and Children, Plaistow..... 74
Salford Royal Hospital 76
Salisbury Infirmary 76
Scarborough Hospital and Dispensary 73
Sheffield Union Hospital 79
Southwark Union Infirmary 77
Stockport Infirmary 75
University College Hosp., Gower-street 77
University of Leeds 79
West African Medical Staff..... 78
West End Hospital for Diseases of the Nervous System 77
West Ham and Eastern General Hospital 77
West London Hospital, Hammersmith-road 74
Western General Dispensary 74
Wolverhampton and Staffordshire General Hospital 76
Woolwich Infirmary 77

ASSISTANCIES, MEDICAL:—
Arnold & Sons, Giltspur-street.... 70
Born & Smith, Manchester 79
Church of Scotland Foreign Mission Committee 79
Jardine-Dobie, Sandgate 79
Lee & Martin, Birmingham..... 79
Medicus, Liverpool 79
No. 777, L.O., Strand 79
No. 812, L.O., Strand 79
Scholastic, Clerical, &c., Association, Craven street 79
Sinclair, Maesteg 76
Turner 79
Y., Leeds 79

ASYLUMS HOMES, &c.:—
Ashwood House, Kingswinford .. 67
Association of Medical Men Receiving Resident Patients 73
Barnsley Hall, Bromsgrove..... 67
Barnwood House Hospital 68
Bishopstone House, Bedford..... 67
Bootham Park, York 67
Broadlands, Medstead 73
Brunton House, Lancaster 73
Buntingford House Retreat, Buntingford 70
Camberwell House, Peckham-road 69
Cheadle Royal..... 68
Clarence Lodge, Clapham-park .. 67
Colthurst House, Alderley Edge .. 67
Coppice, The, Nottingham 68
Dalrymple House, Rickmansworth 70
Dartmoor Sanatorium 73
David Lewis Colony, Alderley Edge 67
Duff House, Banff..... 71
Elliot, Southwell 70
Ghyllwoods 70
Grove House, Church Stretton.... 68
Grove, The, Catton, Norwich..... 68
Haydock Lodge, Newton-le-Willows 69
Haynes, Brentwood 73
Heigham Hall, Norwich 67
Home for Epileptics, Maghull..... 67
Invernith Sanatorium, Colinsburgh 70
Kingsdown House, Box..... 67
London Fever Hospital..... 68
London Sanatorium..... 71
Maison de Santé de Glain-lez-Liége (Belgium) .. de Glain-lez-Liége (Belgium) 68
Malling Place, Kent 68
Manna Mead, Blackheath 73
Melbourne House, Leicester 68
Mendip Hills Sanatorium 72
Middleton Hall, Co. Durham..... 67
Moat House, Tamworth 68
Newmains Retreat, Lanarkshire.. 71
Nordrach-on-Dee, Banchory 71
Northumberland House, Finsbury-park 67
Northwoods House, Winterbourne 69
Norwood Sanatorium, Ltd..... 70
No. 758, L.O., Strand 73
No. 815, L.O., Strand 73
Osea Island, Heybridge..... 10
Peckham House..... 69
Pendyffryn Hall Sanatorium, Nordrach-in-Wales 71
Plympton House, Plympton 68
Portsmouth Corporation Mental Hospital 67
Rona Electrical and Medical Nursing Home 73
Ruebury Sanatorium, Northallerton 66
St. Andrew's Hospital, Dollis Hill 73
St. Andrew's Hosp., Northampton 68

ASYLUMS—(Continued).
St. Luke's Hospital for Mental Diseases 67
Shaftesbury House, Formby-by-the-Sea 70
Springfield House Private Asylum, Bedford 68
Stocker, Craven-street 73
Stretton House, Church Stretton.. 68
The Grange, near Rotherham 68
Vale of Clwyd Sanatorium 72
Warneford Asylum, Oxford..... 67
Wye House, Buxton..... 68
Yarrow Convalescent Home, Broadstairs 69
Zander Institute 69

FINANCIAL, &c.:—
Equitable Reversionary Interest Society..... 64

HEALTH RESORTS, BATHS, &c.:—
Aix-les-Bains, Savoy ..... Cover 11
Harrogate Hydropathic Establishment 66
Leysin, Switzerland..... 72
Peebles Hotel Hydropathic 66
Smedley's, Matlock 66
Val-Mont 66

HOTELS:—
Hotel Windsor 72
Knowle Hotel, Sidmouth 72

HOUSE & ESTATE AGENTS:—
Leigham Court Estate Office, Streatham Hill 80
Ley Clark, Wimpole-street 80
McLewin, Bath 80
Porter, Putt & Fletcher, Gravesend 80

LIFE & FIRE ASSURANCES, &c.:—
Prudential..... 64
Scottish Widows' Fund..... 15

MASSAGE:—
London School of Massage 66

MEDICAL ACCOUNTANTS &c.:—
Turner 80

MEDICAL AGENTS:—
Fieldhall, Limited..... 81
Manchester Clerical, &c., Assoc.. 81
Medical Agency 81
Moore & Co. 79
Needes, Herbert..... 80
Needes, J. C. 81
Peacock & Hadley..... 81
Scholastic, Clerical, &c., Association..... 82
Turner 81

For continuation of Index to Official and General Announcements, and Trade and Miscellaneous Advertisements, see page 4.

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INDEX—(CONTINUED).

MEDICAL SCHOOLS:— PAGE
(LONDON.)
London School of Clinical Medicine ... 63
West London Post-Graduate Coll.. 62

NURSING INSTITUTES:—
Co-operation of Temperance Male and Female Nurses ... 64
General Nursing Association ... 66
Hospital for Sick Children, Great Ormond-street ... 66
Leeds Trained Nurses' Institution 65
London Nurses' Association ... 65
London Temperance Male and Female Nurses Co-operation ... 65
Male Nurses Temperance Co-operation ... 65

NURSING INST.—(Continued). PAGE
Mental Nurses' Co-operation ... 66
Nurses' Co-operation, Portland-place ... 66
St. John's House ... 66
St. Luke's Hospital ... 65
Temperance Association of Male Nurses, Ltd. ... 64
Temperance Male Nurses Co-operation ... 65
Temperance Male and Female Nurses Co-operation ... 65
The Retreat, York ... 65

OFFICIAL NOTICES:—
Central London Throat, Nose and Ear Hospital ... 63

OFFICIAL NOTICES—(Continued). PAGE
City of London Lying-in Hospital ... 62
Edinburgh Post-Graduate Courses in Medicine ... 62
Guy's Hospital ... 63
Hospital for Sick Children, Great Ormond-street ... 63
London Hospital ... 63
London School of Tropical Medicine ... 63
North-East London Post-Graduate College ... 62
Queen Charlotte's Lying-in Hos. 62
Royal Society of Medicine.. Cover i
St. Mary's Hospital Medical School 63
University of London ... 63

OFFICIAL NOTICES—(Continued). PAGE
West End Hospital for Diseases of Nervous System ... 62
York-road General Lying-in Hospital, Lambeth ... 62

PARTNERSHIPS & PRACTICES 79

RAILWAY & STEAMSHIP CO.'S:—
New Zealand Shipping Co. ... 64

SCHOOLS, PREPARATORY, &c.:—
Agricultural College, Aspatria ... 65

TUTORS & LECTURERS:—
Gemmell .... 64 | No. 449, L.O... 80
Med. Corres. College .... 64 | Schnelle 8
Weymouth .. 62

TRADE AND MISCELLANEOUS ADVERTISEMENTS

AMBULANCES:—
St. John Ambulance—
Invalid Carriages ... 17

BOTTLE MERCHANTS:—
Isaacs ... 10

CARRIAGES, MOTORS, &c.:—
Armstrong—
Coachmen's, Grooms', and Chauffeurs' Liveries ... 17
Bayard Cars, Ltd.—
Bayard Car ... 17
Dunlop Rubber Co., Ltd.—
Dunlop Tyres ... 17
"V" Golf Balls ... 17
Morgan & Co.—
Morgan-Adler Carette ... 16
Studebaker, Ltd.—
Studebaker "Four" ... 16, 19

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Antitoxins, &c. ... 35
Byno Hypophosphites ... 31
Castor Oil ... 37
Angier Chemical Co.—
Angier's Emulsion ... 26
Armbrecht, Nelson & Co.—
Radium Water ... 34
Armour & Co.—
Extract of Red Bone Marrow ... 43
Bayer Co., Ltd., and E. Merck—
Luminol ... 22
Luminol-Sodium ... 22
Veronal-Sodium ... 22
Bishop, Ltd.—
Hydropyrin ... 40
British Drug Houses, Ltd.—
Herogen ... 21
British Oxygen Co.—
Oxygen ... 57
Bullock & Co.—
Pepsina Porci ... 54
Acid Glycerine of Pepsine ... 54
Burroughs Wellcome & Co.—
Dartring Lanoline Products ... 35
Kepler Cod Liver Oil with Malt Extract ... 39
Tabloid Brand Tinctures ... 38
Carnrick & Co.—
Dry Pepsonoids ... 36
Liquid Pepsonoids c. Creosote. 36
Soluble Food ... 36
Christy & Co.—
Glyco-Thymoline ... 28
Glyco-Heroin ... 55
Clay, Paget & Co.—
Glycolactophos ... 51
Corbyn, Stacey & Co.—
Egt. Ergotæ Liq. ... 21
Duncan, Flockhart & Co.—
Chloroform, Ether, &c. ... 25
Eccelent Compounds, Ltd.—
Eccelent Compound ... 27
" Powder ... 27
" Soap ... 27
Evans Sons Lescher & Webb—
Diluted Tuberculins ... 25
Savaresse's Membranous Capsules ... 25
Anti-Diphtheritic Serum ... 25
Mambrainids ... 25

CHEMISTS—(Continued).
Fairchild Bros. & Foster—
Pepule Digestive Products Cover iv
Fellows—
Syrupus Hypophosphitum 22
Gale & Co., Ltd.—
Elixir Creosoli c. Heroin Co. .. 55
" Pruni Sedat. ... 55
Linctus Tussi ... 55
Syrup. Creosoli Lactophosph. Co. ... 55
Grant—Veronicin ... 54
Grillon—
Tamar Indien Grillon ... 54
Hewlett & Son—
Mist. Damianæ Co. ... 50
Hogg & Son—
Protein Nerve Food ... 58
Hudson's Eumenthol Chemical Co.—
Eumenthol Jujubes ... 58
Humphrey Taylor & Co.—
Junora ... 45
Lecithin-Ovo ... 45
Kutnow & Co.—
Kutnow's Powder ... 34
Maltine Manufacturing Co.—
Maltine ... 37
" with Cod Liver Oil 37
" Compounds ... 37
Merck—
Magnesium-Perhydrol ... 34
Mertens—
Nourry's Iodinated Wine ... 40
Parke, Davis & Co.—
Taka-Diastase ... 30
Raimes & Co.—
Slinger's Nutrient Suppositories ... 42
Saccharin Corporation, Ltd.—
Diamalt ... 48
Novocain ... 48
Trivalin ... 48
Tulloch's Alloys ... 48
Saccharin ... 48
Squire & Sons—
Terperoin Elixir ... 29
Past. Terperoin Co. ... 29
Salvar. Inject. ... 29
Neo-Salvarsan Injects. ... 29
Tidman's Sea Salt ... 57
Waterbury Chemical Company—
Cod Liver Oil Compound ... 57
Pinozyme ... 57
Welford & Sons—
Sauermilch ... 34
Willows, Francis, Butler & Thompson, Ltd.—
Drugs ... Cover iii
Wulfing & Co.—
Formamint ... 41
Zimmermann, A. & M.—
Schering's Hegonon ... 46
Schering's Hormonal ... 46
Spermineum-Poehl ... 46
Nastin ... 57
Zimmermann & Co.—
Radiogen ... 42
" Emanatorium ... 42

DISINFECTANTS:—
Allen & Hanburys
Medical Izal ... 33
Condy's Fluid ... 56
Quibell Bros., Ltd.—
Kerol ... 55
" Capsules ... 55
Zimmermann & Co.—
Lysol ... 54

ENGRAVERS (NAME PLATES) &c.—
Cooke & Co.—
Brass Name Plates and Lamps 42
Osborne & Co.—
Brass Door Plates ... 60

FOODS:—
Aylesbury Dairy Co.—
Humanised Milk ... Cover ii
Benger's Food, Ltd.—
Benger's Food ... 24
Blatchley's Diabetic Preparations 58
Lifebelt Coffee Co., Ltd.—
Finest Pure Coffee ... 53
Maconochie Bros.—
Pan Yan Pickle ... 53
Manhu Food Co.—
Manhu Diabetic Foods ... 58
Mellin's Food, Ltd.—
Mellin's Food ... 52
" Biscuits ... 52
" Lacto ... 52
Nestlé's Swiss Milk ... 20
Peter's Swiss Milk Chocolate ... 46
Valentine's Meat Juice Co.—
Meat Juice ... Cover iii
Van Abbot & Sons—
Foods for Diabetics and Obesity 59

FURNITURE, &c.:—
Carter—
New Model Farringdon Couch 14

HOSPITALS (ISOLATION):—
Browne & Lilly—
Revolving Chalets, &c. ... 60

MED. & SURG. APPLIANCES:—
Bailey & Son—
Consulting Room Couches 12
Personal Weighing Machine .. 12
Davis—
Lukens Sterile Catgut ... 10
Down Bros., Ltd.—
Silent Rotary Blower ... 13
Etherization Apparatus ... 13
Instrument for Reducing Over-lapping Fractures ... 13
Galen Mnfg. Co.—
Milne's Double Cyanide Gauze 18
Hawksley & Sons—Knee Trusses.. 61
Holland & Son—
Patent Instep Supports ... 18
Kopp & Joseph—
Surgical Instruments, &c. 14
Millikin & Lawley—
Osteology, &c. ... 18
Morison & Stephens—
Isomar Abdominal Belts, &c... 11
Noelle—Dr. Dettweiler's Splinting Plaster ... 61
Robinson & Sons—
Capsicum Gamgee Tissue 58
Scholl Mfg. Co., Ltd.—
Scholl's Foot-Eazer ... 15
" Arch Fitting Machine 15
Timpson & Co.—
Zo Adhesive Plaster ... 61

MINERAL WATERS:—
Apollinaris Co.—
Apollinaris ... 44
Camwal, Ltd.—
Aerated Lithia Water ... 58
Davis—Hercules Water ... 58
Evian-Cachat Agency—
Evian-Cachat Water ... 47

MINERAL WATERS—(Continued).
Ingram & Royle—
Gleisshübler Mineral Water.... 51
Vichy-Célestine ... 59
Royal Fachingen Natural Mineral Waters ... 59
Rubinat-Llorach ... 53
Vittel—Vittel Grande Source.... 59

MUSICAL INSTRUMENTS:—
Marshall—
Angelus Player-Pianos ... 59

SANITARY APPLIANCES, &c.:—
Aymard Patent Milk Steriliser Co.—
Aymard Milk Steriliser ... 10

STATIONERY, &c.:—
Burge, Warren & Ridgley—
The "Compacto" Style ... 18

TAILORS, BOOTMAKERS, &c.:—
Dowie & Marshall—
Hygienic Bootmakers ... 53
Evans & Co.—
The Regent 1914 Models ... 42
Holden Brothers—
Natureform Boots, &c. ... 39
Miller—
Dress Suit, &c. ... 19

TOBACCO, CIGARS, &c.:—
Player & Sons—
Perfectos Cigarettes ... 52

TYPEWRITING, &c.:—
Taylor's Typewriters ... 17

VACCINE LYMPH:—
Dr. Fonndorf's Dry Vaccine ... 60
Jenner Institute for Calf Lymph.. 60
Renner's Calf Lymph Establishment ... 60
Roberts & Co.—
Chaumier's Calf Lymph ... 60

WINES, BEER, SPIRITS, &c.:—
Ackerman-Laurance—
Brut-Royal ... 59
Dunville's Irish Whisky ... 44
Finsbury Distillery Co.—
Wolfe's Schnapps ... 52
Humphrey Taylor & Co.—
"G.B." Diabetes Whisky ... 45

X-RAY, &c., APPARATUS:—
Sanitas Electrical Co.—
New Earth-free Multostat 12

MISCELLANEOUS:—
Box 606, Willings, Strand ... 60
British Thomson Houston Co.—
Masda Drawn Wire Electric Lamps ... 60
Hignett, Northwood—
12 h.p. Talbot ... 59
Miss S., Kilburn—
Secretary, &c. ... 79
Windovers, Long Acre—
12-16 h.p. Siddeley ... 60

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The Hunterian Lectures ON INFANTILISM.

Delivered before the Royal College of Surgeons of England on Feb. 2nd and 4th, 1914,

BY HASTINGS GILFORD, F.R.C.S. ENG.

LECTURE I.

Delivered on Feb. 2nd.

MR. PRESIDENT, LADIES AND GENTLEMEN,—The name "infantilism" was first used by Lasègue, and we are indebted to other French writers, notably Fournier, Hutinel, Meige, Brissaud, and Garnier, for much information and for a valuable classification. Among Italians Taruffi, E. Levi, and Ferranini; among Germans Schaaffhausen and Virchow; among Austrians Arnold Paltauf and Fröhlich; among Americans Cushing and Herter; and among Belgians Hertoghe may also be singled out for their valuable contributions. But of all the works upon this subject the most important is that which has proceeded from the Eugenics Laboratory of the University of London, under the guidance of Professor Karl Pearson. The book on Dwarfism, which has been drawn up by his assistants, Dr. H. Rischbieth and Miss Amy Barrington, with its exhaustive bibliography, its copious *résumé* of cases, its pedigrees and its wealth of pictures, is a rich mine of information for the investigator into the subjects of dwarfism and of infantilism, and I feel bound to put it into the forefront of my lecture not only because of its intrinsic value but because I have drawn upon it for most of my facts. In this book references to more than a hundred cases of infantilism, chiefly ateleiosis, have been gathered together and arranged in historical sequence. Their number not only shows the growing importance of the subject, but also that there is now sufficient material to justify an attempt at a scientific classification.

CLASSIFICATION.

Until recently the best arrangement of the forms of infantilism was that for which we are indebted to the French writers Lorain, Brissaud, and Variot and Pironneau, who have grouped them into types founded upon their more obvious anatomical characteristics. Thus the name of Lorain has become associated with that form of infantilism, usually of lesser degree, in which the bodily proportions are of the adult pattern and in which, according to Brissaud, there is reason to believe that the defect of development is dominated by hypoplasia of the heart and arteries. Brissaud's type was thought to be dependent upon some defect in the action of the thyroid gland, and was therefore termed the myxœdematous type. While Lorain's type is usually characterised by a more thin or angular figure and by debility, in Brissaud's type there is a tendency to fatness. Brissaud's type of infantilism is often of extreme degree—the sex organs are undeveloped and the proportions are infantile. Recently Variot and Pironneau,[1] in describing a case of progeria, suggested the addition of another type which they termed "le nanisme type sénile," in which may be included all cases of dwarfism or infantilism coexisting with emaciation, debility, and other signs indicative of the decrepitude of senile decay.

These types have been of great service and are still useful for descriptive purposes, but they can hardly be retained as the basis of a scientific classification. Though adequate when our knowledge of infantilism was in its infancy, they prove inadequate when we attempt to fit them to our present enlarged conception of this subject. Thus we now know that most of the cases, which were regarded as of the myxœdematous type of Brissaud, are in reality due either to changes in the pituitary gland or are examples of ateleiosis. In Lorain's type again there may be no evidence of anangioplasia, and in Variot's senile type the senility may be nothing but an end result of a prior infantilism.

Not only is there reason to criticise the types into which infantilism has been divided, but the meaning which has been given to the word "infantilism" is itself open to question. Thus it is usually regarded as synonymous with sex deficiency, as if there could be no infantilism in which the sex organs are normal. But such a conception of infantilism can hardly be entertained. An infant with sexual precocity does not cease to be an infant because its sex organs have ripened, and the adult who is somatically perfect is still a man or a woman despite some lack of development of the reproductive organs. Although the sex organs are infantile the individual as a whole is not necessarily immature except in regard to sex alone.

There is, moreover, great objection to the conception of infantilism as a condition dominated by one set of organs in that the meaning of the word is artificially cramped, seeing that it is necessarily limited in its application to sex-bearing animals or plants. The terms "infantilism" and "infantilate" ought to be as wide in their meaning as "dwarfism" and "dwarfed," and therefore capable of being applied to any animal, not only to the metazoa but to the protozoa, to cells and to organs, as well as to the complex animal, and to plants as well as to animals. This becomes more obvious when we compare the state of infantilism with the state of dwarfism, for we then see how artificial is any definition which limits the meaning of "infantilism" to the sphere of one organ.

The difference between infantilism and dwarfism is that whereas in dwarfism there is a serious delay or arrest of growth, in infantilism there is a similar imperfection of development. The one is purely quantitative, the other qualitative. Dwarfism is, therefore, usually one of the symptoms of general infantilism, but not invariably; for just as a child of 12 may be of adult stature, so also, though but seldom, do we meet with an infantilate who is not a dwarf.

THE ORIGIN OF INFANTILISM.

It is one of the cardinal principles of the doctrine of evolution that every individual, every organ, every cell is liable to depart from established custom and to show diversity of form and function, and such changes or "variations" are themselves liable to vary. Hence, if we put on one side the slighter modifications, we have two degrees of variations, one of which we know as the "continuous variation" or "fluctuation," and the other as the "discontinuous variation" or "mutation." And it is important to realise that though the fluctuation is of lesser degree it need not necessarily be less conspicuous. The real difference between them has been shown by De Vries to lie in the fact of heredity more than in any other

[1] Bulletin de la Société de Pédiatrie de Paris, 1910, p. 307. La Clinique Infantile, vol. viii., 1910, p. 705.

circumstance. Now a fluctuation is, as a rule, if not invariably, the outcome of two factors, the one being an inherent tendency to vary and the other a congenial environment or stimulus which calls it forth, or accentuates it when already extant. A mutation, on the other hand, seems to come into being spontaneously without the assistance of any outside help. It is, therefore, in reality the stronger or greater of the two variations; and this, indeed, is shown by the fact of heredity which is its most characteristic feature.

Here it may be objected that merely to call anything a variation does not advance our knowledge. But in reality the word carries us a stage nearer to the origin and nature of infantilism, for it enables us to make comparisons with other variations. And, as Professor Bain has shown, the ability to make fresh comparisons or fresh associations of ideas lies at the foundations of a superior intelligence. Moreover, it enables us to adopt a classification which is not dependent upon superficial distinctions, but is fundamental, for by it we are able to find a natural and adequate explanation, not only of the varieties, but of the very occurrence of infantilism.

DEFINITION.—CLASSIFICATION.

We regard infantilism, therefore, as *a conspicuous delay or arrest of development*. The lesser degrees of defective development do not constitute infantilism, seeing that they are not such a departure from the normal as to attract attention or to throw the individual or the part affected out of harmony with the surroundings. But the condition connoted by the word "infantilism" as by the word "dwarfism" is necessarily abnormal or pathological. If we confine our consideration of infantilism to the human being we shall have to recognise two kinds or classes. In the one the man is affected phylogenetically, constituting racial, ethnic, or evolutionary infantilism; in the other ontogenetically, constituting individual or developmental infantilism.

I. EVOLUTIONARY OR PHYLOGENETIC INFANTILISM.

In this class the man as an individual is normal. He can only be regarded as abnormal when considered as the constituent of a people or race as compared with other races of mankind. Just as in some parts of the world nations or peoples have fallen into a state of racial degeneration, so in other cases races may never have arrived at maturity, but still exist in a state of defective development or of actual infantilism. For example, the Japanese, some Chinese, and the Siamese in Asia and the Bantus in Africa show evidences of being racially imperfect when compared with Caucasians. In other nations the evolutionary defect is much more pronounced, constituting a racial abnormality or infantilism. This is the case, for example, with the forest dwarfs of Central Africa, the Bushmen of South Africa, and the Sakai of Malaya. Their evolutionary status shows that they are anthropologically discordant, so that, like an inferior species of animal, they are driven into the forests and deserts, mountains, or other less hospitable parts of the earth's surface.

II. DEVELOPMENTAL OR ONTOGENETIC INFANTILISM.

Just as each of the structural units of the body is liable to degenerate prematurely so also may it continue immature, and it must sometimes happen that this immaturity is of extreme degree, constituting infantilism. Hence it follows that not only is there a degeneration or a dwarfism but also an infantilism of cells, an infantilism of organs, and an infantilism of the individual as a whole. For the sake of completeness each of these varieties of infantilism must be touched upon, although the greater part of our lecture must be devoted to the infantilism of man as a whole.

A. *Infantilism of Cells.*

In all parts of the body single cells or groups of cells are liable to stagnate or even to be arrested in their development. It has been shown that this is particularly likely to happen in those areas in which one kind of tissue terminates abruptly in another kind of tissue or where tracts of some fœtal structure have differentiated into more than one organ at a comparatively late period of development. Thus, at the margin skin and mucous membrane, the lips, the anus, or again in the organs formed out of the primitive segmental organs, islands of ill-developed cells are apt to be displaced and to remain isolated from their normal surroundings. Similarly with the long bones, in which groups of cartilage cells or half-formed bone cells are often left behind by the advancing tide of ossification. Such infantilate cells pent up in uncongenial surroundings, unable to develop, are apt, as Cohnheim has shown, to undergo premature degeneration and to proliferate as cancers.

B. *Infantilism of Organs.*

We may speak in a similar manner of organs which have never accomplished their destiny. If the defect of development be of slight degree no harm results, but if, on the other hand, it be extreme the organ is in a state of infantilism, and as such is prone to degenerate prematurely. Thus, a kidney which shows slight developmental imperfections in the form of lobulations of its surface will probably last its allotted span; but if the defect be more extreme, so that it never gets beyond the infantile stage, it is liable to undergo early fibrosis. So also with the infantilate brain, thyroid, testes, ovary, breast. These and other organs if in a state of striking immaturity are prone to end their developmental career prematurely, falling into senile decrepitude before they have attained their prime.

C. *Infantilism of the Individual as a Whole.*

There is reason to believe that infantilism of cells and of organs may be divided into two classes according to whether the arrest of development is the result of definite causes and is a fluctuation or whether it is to all appearances spontaneous. In this latter event it is prone to show the influence of heredity and is a mutation. General infantilism arranges itself naturally into these same two biological classes. As a fact in the first class the infantilism owes its appearance to two circumstances. One of these is a cause or causes, whatever they may be, but these causes are not in themselves sufficient to produce infantilism, seeing that they may be in operation, even in a concentrated form, without producing so much as a slighter defect of development. This is the case, for example, with the disease toxins, which are among the most important exciters of infantilism. That such causes are by themselves ineffective is proved by the fact that, though their distribution is very common and very widespread, infantilism is comparatively rare. What is needed to produce infantilism is the second and still more important factor, which consists in that cryptic tendency to vary which constitutes

the basis of all fluctuations. Infantilism of this kind is, therefore, the outcome of an intrinsic or inherent tendency to developmental inhibition assisted by an environment suitable for its production. This form of variation is *symptomatic*, seeing that it is the expression of the action of a morbid agent or agents and is of a decadent or regressive type, not making for the improvement of development, but for its deterioration. Consequently the causes of this infantilism must invariably be of a deteriorating or damaging kind, such as the disease toxins, deficiency of food, hardship, overwork, or degeneration affecting some special locality of the body. As befits a fluctuation it is usually of minor degree, of gradual rather than of abrupt onset.

In the second class the infantilism is "idiopathic," spontaneous, or essential. In this and in other respects its salient features are of the sort which characterises all mutations. Not only does it occur independently of cause or environment, but it begins with comparative suddenness, is, as a rule, of pronounced degree and often hereditary. This last feature is by itself sufficient to stamp its nature as a mutation, for it proves that it must be dependent, not upon any contemporary environment, but upon some deep-seated remote biological events.

CLASS I.—SYMPTOMATIC GENERAL INFANTILISM.—INFANTILISM AS A FLUCTUATION.

The causes of symptomatic infantilism are of two kinds, the one being some poison or other deleterious influence equivalent to a poison introduced from without, the other the product of some perversion of one or more of the organs of the body which act upon its development either by means of a secretion or in some more occult manner. It is possible that there is a third group due to the withholding of some food or food stimulus essential to the proper development of the body.

Symptomatic infantilism may therefore be either (A) toxic, or (B) correlative, or possibly (C) deprivational.

A. TOXIC INFANTILISM.

The poisons capable of setting up infantilism are many, the most important being the products of fungi or protozoa living within the body. Chief among these are the toxins of syphilis, tubercle, malaria, enteric fever, pellagra, scarlet fever, measles, leprosy, and of those organisms responsible for the chronic diarrhœal diseases of infancy. Other poisons are introduced from the outside either from saprophytic fungi, as in the case of the yeast plant, or from plants of higher order, such as the poppy or tobacco. Lastly, they may be inorganic—as lead, mercury, bisulphide of carbon.

B. CORRELATIVE INFANTILISM.

It is recognised that under ordinary conditions there is a strong tendency for standards of growth of one part of the body to harmonise with standards of growth in other parts. Each part bears a certain relation to all other parts. And this correlation exists not only under normal conditions but is also manifested when conditions are abnormal. We have only to witness what happens to the soft tissues when part of a long bone is destroyed, or, still better, when the bone prematurely ceases to grow, to realise that the correlation which exists between the growth of the bone and of the muscle, skin, vessels, and other soft tissues which cover it can readily be adjusted to abnormal conditions. In rickets and in achondroplasia, moreover, these adjustments are often very considerable, so that the whole body with its contained organs is occasionally dwarfed in size in order to accommodate it to the abnormal shortening of the bones of the limbs.

Adjustments of this sort are not confined to affairs of growth but are also to be witnessed where development is concerned. Thus for æons of time it has been the custom for the ripening of the sex organs to coincide with an impulse of skeletal development which rapidly advances the framework of the body to maturity, and this maturation of the skeleton coincides with, or is immediately followed by, corresponding changes in the soft tissues in general. It is the fashion now to attribute all these coördinated changes to the influence of a secretion proceeding primarily from the sex glands, reinforced by secretions from other endocrine organs. But it is possible that we may be a little too hasty in coming to conclusions of this nature, for there is no reason to suppose that bodily correlations are accomplished solely by chemical stimuli emanating from ductless glands. Correlations of growth and of development take place in plants, although as yet no one has been able to detect the influence of secretions. There is also a period in the evolution of animal forms and in the development of the higher metazoa in which there are important correlations prior to the development of the ductless glands. In all these cases the stimulus to correlation appears to be of the nature of a habit or of mnemonics, whereby an act of development in one organ leads to associated acts in other organs. Out of this primitive mechanism of correlation the more elaborate machinery of the endocrine organs seems to have been evolved as a more perfect method of accomplishing the same end. But it is important to realise that many of the correlations of the body may still to a large extent be prompted by other methods than by the hormones or by inhibitory secretions manufactured in special organs of correlation.

Hence in the production of infantilism we sometimes meet with cases which cannot be accounted for by toxic influences, which are apparently not due to the withholding of food or of food stimuli, but seem to be due solely or partly to the influence of correlation. In some cases this influence seems to proceed from the derangement or incapacity of an endocrine organ. In other cases it is difficult to account for the infantilism on this score. The morbid condition apparently arises as the result of correlations of the more primitive type in which the hormones are not concerned.

Correlative infantilism may, therefore, be of two kinds: (*a*) endocrinous, and (*b*) simple correlative.

(*a*) *Endocrinous Infantilism.*

There is at present no criterion by which we can decide when any particular infantilism is to be regarded as of endocrinous origin. Only one form of infantilism has so far satisfactorily been proved to be due to the absence or defect of an internal secretion, and this is *thyroid infantilism*. In this case three requirements are fulfilled. 1. Local examination of the gland shows that it is inadequate. 2. The administration of the gland or of its extract to a normal person produces symptoms opposed to those which characterise the infantilism. 3. The gland or its extract given to the infantilate counteracts the symptoms characteristic of the infantilism. Ought we to demand that these three stipulations should be satisfied before we can admit the endocrinous origin of other kinds of infantilism? If so, it can

hardly be said that any other than cretinism or myxœdematous infantilism has yet been proved endocrinous.

It is true that Fröhlich has shown that in the peculiar form of infantilism with obesity described by him the pituitary body is seriously inadequate, and Cushing and his co-workers and Biedl have confirmed his observations by producing similar infantilism by partial destruction of the anterior lobe of the pituitary gland in dogs. But although Cushing's important researches, including the administration of pituitary glands, all tend to confirm the evidence furnished by his operations, it cannot be said that anyone has yet satisfactorily demonstrated that the artificially obtained hormone will either give rise to opposite symptoms in a normal individual or will obliterate the infantilism. Hence, though the observations which have been made are sufficient to justify the name of *pituitary* or *Fröhlich's infantilism* for that form which is characterised by obesity, inhibition of sexual development and increased tolerance of carbohydrates, we are not yet justified in positively asserting that it is the result of a deficiency of pituitary hormones. There is still room for another explanation.

As for other endocrine organs, such as the thymus, suprarenals, ovaries, testes, and the pancreas, there is no convincing evidence that they ever produce infantilism by hormonic defect. In their case the necessary requirements have not been satisfied. Morlat has, it is true, described a suprarenal infantilism; Variot believes that progeria is of that nature; in Thomson's case infantilism was associated with hyperplasia of the thymus gland, and in one of Byrom Bramwell's cases there was reason to suspect pancreatic inadequacy, and Souques believes that sexual defects are of great importance in originating infantilism. But in all these cases the connexion between cause and effect is so uncertain, both as to its nature and as to its occurrence, that it cannot as yet be regarded as otherwise than suggestive. More will be said on this subject later on.

(b) Simple Correlative Infantilism.

After we have put on one side all those cases in which there is good reason to believe that infantilism may be the result of defective action of some endocrine organ or organs, we still have left a class of infantilism which is apparently correlative in origin. At any rate, cases occur in which toxins seem to have played no part, in which there is no evidence of the lack of any hormone, and in which there is no debilitating influence at work to a degree sufficient to produce such a profound effect as is implied in the infantilism. For example, infantilism occasionally occurs in *achondroplasia*, and the late Dr. Bryant once told me that he had under his care a case of infantilism occurring in association with *muscular dystrophy*. It may also be associated with *sclerodermia*. Then there have been many cases recorded of *cardiac* or of *anangioplasic infantilism* in which much retarded development has accompanied congenital or post-natal derangement of one of the valves of the heart or of the whole cardio-arterial system. In these cases the infantilism is usually supposed to be due to want of nutrition, the result of a defective blood-supply. But without doubt anangioplasic infantilism sometimes occurs without any obvious debility, emaciation, lividity, or other sign of nutritional defect, and, short of infantilism, it is not uncommon to see boys or girls with damaged valves considerably stunted in growth, yet well nourished, strong and sturdy, able to play games, and otherwise behave like normal beings.

Although in some of these cases it is probable that the interference with the blood-supply does contribute to the dwarfism or to the infantilism, there is much more reason to suppose that they are further examples of correlation, whereby the growth or the development of the body is brought within the compass of a defective organ. The height and weight and general progress of the body are under normal conditions so intimately associated with a certain force and capacity of blood-supply that the association continues when conditions are abnormal.

We may speak in somewhat similar terms of the infantilism which occasionally goes with *microcephaly*, *hydrocephaly*, and with *amentia* in general. As a rule, growth only is involved, but occasionally there is defective development or even infantilism. Although it is true that those parts of the brain which directly concern the motor and the more vegetative functions are separate from the mental, yet it is possible that there is an adaptation at work in these cases whereby a better result is obtained when growth or development is defective than when it is normal. Another view of these cases is that the stunting is the result of the lessening of some occult trophic influence which proceeds to a greater degree from a bigger quantity of nervous substance than from a smaller quantity, but there are many cogent reasons against this view.

It is not unlikely that the infantilism which is associated with *hypertrophic cirrhosis of the liver*, with *hyperplasia of the spleen*, with *chronic Bright's disease*, as in the case recently described by Dr. H. Morley Fletcher, is also correlative in nature.

C. DEPRIVATIONAL INFANTILISM.

Infantilism has been attributed to insufficient food or to food which has been deprived of specific growth substances or vitamines. But although defective growth or defective development may be produced in this way, it cannot be said it is the cause of actual infantilism. Some important information on this subject has recently been collected by Casimir Funk,[2] who shows that remarkable arrest of growth may also take place in fowls fed upon red unpolished rice containing its vitamine. But more information is required before experiments of this sort or of those described by Hopkins[3] and others can be regarded as other than suggestive. Whatever may be their effect upon growth, it is by no means clear that they ever give rise to defects of development, much less to infantilism.

Infantilism of Mixed Causation.

Though we are in the habit of attributing symptomatic infantilism to the operation of causes which act singly, no one can read some of the accounts of cases without wondering whether the cause to which infantilism is imputed was the sole cause or whether it was also due to some illnesses which are only casually alluded to as being of very little consequence, and in more than one case it has seemed patent that the real cause of infantilism was not that given in the title. So also in splenic, hepatic, cardiac, renal infantilism there is probably more than one cause at work, one being the debility produced by the

[2] THE LANCET, Jan. 10th, 1914, p. 99.
[3] THE LANCET, Nov. 8th, 1913, p. 1309.

disease and the other the influence of correlation. It must sometimes happen that the infantilism is the product of one cause, reinforced by another or by others. We well know that there is often a similar etiological mixture at work in the production of degeneration, as when the toxin of syphilis, or lead, alcohol, or some other poison mutually help to facilitate the downfall of some organ or man.

CHARACTERS OF SYMPTOMATIC INFANTILISM.

Symptomatic infantilism is usually of the Lorain type, sometimes of Brissaud's type. But the type is chiefly dependent upon the age at which the infantilism appears. Thus thyroid infantilism occurring in infancy is emphatically of Brissaud's type, but thyroid infantilism which begins in late childhood or youth exhibits the features of the Lorain as much as of Brissaud's type. In pituitary infantilism, again, there is, as a rule, a mixture of the two types, in which the roundness of outline and the sex deficiency of Brissaud's type are mixed with the bodily proportions of Lorain's type.

But generally speaking symptomatic infantilism is of the Lorain type, the curtailment of growth being more obvious than the defect of development. Although there is a general delay of development which postpones puberty for a few years, in the end all traces of infantilism usually disappear and the dwarfism remains, so that the individual is left with the stature of a youth or of a child and the proportions of an adult. An important feature of ateleiosis presently to be described is heredity. But though a cardinal symptom of essential infantilism and therefore of prime importance in distinguishing it from symptomatic infantilism, it must be recognised that symptomatic infantilism is sometimes familial. Yet there is a fundamental difference between the familial occurrence of symptomatic infantilism and the heredity of ateleiosis. This difference may be exemplified in cretinism. In this disease the infantilism is not primary nor essential, but is secondary to some affection of the thyroid gland. Hence cretinism occurs in two forms. In the one it is the result of causes which operate upon the thyroid gland and is a fluctuation. In the other it is "idiopathic" and a mutation. It is the latter or sporadic cretinism which is apt to occur hereditarily in different members of the same family: but the point now emphasised is that in cretinism it is not the general infantilism which is hereditary but the local arrest of development or degeneration of the thyroid gland. In ateleiosis, on the other hand, the infantilism is primary or essential, for it is not the result of any anterior morbid condition, and its occurrence in different members of the same family is due to a genuine heredity of the infantilism itself.

It is possible that other forms of symptomatic infantilism show this spurious heredity. Thus I have now under observation three children in one family affected with infantilism of the Lorain type, associated with indigestion and occasional bouts of diarrhœa. The exact cause of this condition cannot be determined. They are not cases of Herter's nor of pancreatic infantilism. They can hardly be regarded as cases of hereditary infantilism, for it is much more likely that there is some developmental anomaly of one of the abdominal organs, and that it is this which is the familial factor.

CLASS II.—ESSENTIAL INFANTILISM.—INFANTILISM AS A MUTATION.

Of this kind of infantilism there are two forms—ateleiosis, which is an unmixed infantilism, and progeria, in which the infantilism runs side by side with premature senile decay or "senilism."

ATELEIOSIS.

Definition.—Of ateleiosis there are apparently two varieties. In the one, which may be termed the *asexual* variety, there is conspicuous delay of development of the whole body, some organs or parts being affected more than others, the sexual organs being most backward of all. In the second, or *sexual*, variety there is in early life a similar delay of development of the body as a whole until puberty is reached—a period which may be greatly delayed. The sexual organs then ripen, fusion of the epiphyses takes place, and the individual affected becomes set or stereotyped into a being who is in some respects a child and in others a man or a woman in miniature. An adult of the asexual variety retains the coarser features of a time of life not much beyond that at which his anomaly began, while an adult of the sexual variety combines with the stature, proportions, and physiognomy of childhood all other indications of maturity.

In dealing with the subject of ateleiosis we shall find that its characters admit of a satisfactory explanation if we regard it less from a pathological point of view than as a biological mutation. As an infantilism of pronounced degree, sporadic, of abrupt onset, seemingly without cause, pursuing a course uninfluenced by environment, and, above all, occurring in two or more members of the same family, it presents salient features not only distinctive of ateleiosis but equally characteristic of mutations. Another peculiarity which serves in a minor degree to stamp it as a mutation is the tendency for the general anomaly to be accompanied by local anomalies of growth or development. Perhaps the best way of showing the peculiar features and relations of this condition is to take these characters (though not in the same order) for our text, each character, as in sermons, constituting one of the divisions of the discourse.

Classes and Features of Ateleiosis.

Although *ateleiosis is a pronounced form of infantilism* there are exceptions to this generalisation. Thus, like other mutations, that of ateleiosis does not take place invariably at one period of development. It may happen before birth, and show features characteristic of pre-natal life. This may be termed ateleiosis of Class I., or fœtal ateleiosis. As a rule, the affection arises in infancy or early childhood, constituting ateleiosis of Class II., or infantile ateleiosis. Class III. shows itself between childhood and puberty, as the size and proportions of the body, including the physiognomy, are approaching those which they normally bear at maturity. This, therefore, may be termed childish ateleiosis. Unless otherwise stated, our remarks will be confined to the second class of ateleiosis. And this second class, if we may judge from the record of cases, is by far the most frequent, though it is possible that this frequency is more apparent than real. The morbid condition is then in its most noticeable form, or in a form likely to survive, whereas ateleiotics of the first class would be much more likely to die at birth or shortly afterwards, and would, no doubt, often be passed over as mere examples of fœtal immaturity. Occurring at a still earlier age it would account for some cases of "blighted ovum" and abortion. On the other hand, ateleiosis of the third class, being much less conspicuous and its characters more of the

Lorain than of Brissaud's type, would either not be recorded, or, if recorded, would be confused with symptomatic infantilism. One may venture to suggest that the two cases of infantilism of Lorain type in sisters, published by Ettore Levi,[4] are of this nature. The facts that this infantilism was familial, that there seems to have been no definite cause, that it was of abrupt onset, and the development almost stationary, point to this explanation. At the same time one of the cases was associated with some pituitary enlargement, and this must needs throw some doubt on the exact nature of both of them. They will be referred to again later on.

Ateleiosis of the second class has a striking individuality. Ordinarily ateleiotics of this kind can be recognised at a glance, for they are clearly to be distinguished from achondroplasics, cretins, and other forms of symptomatic infantilism. Their infantile appearance and proportions, as shown in their comparatively big heads, short limbs, small faces, roundness of outline, and in the configuration of their chests and abdomens, serve to distinguish them at once from cases of symptomatic infantilism. An exception must, however, be made in the case of cretins, and possibly of some examples of pituitary infantilism. But the sharp intelligence of the ateleiotic, the clear definition of his physiognomy, distinguish him at once from the stupid, puffy, and ungainly cretin. In achondroplasia the coarseness of type and the conspicuous dachshund deformity are characteristic. Fröhlich's pituitary infantilism is, as a rule, signalised by a peculiar lumpy fatness of the face and trunk and by a florid, purplish hue of the cheeks.

The somatic features of ateleiosis of the first and second classes are so pronounced that when these ateleiotics mix with the public they attract great and embarrassing attention. This is partly their own fault, for they have a way of dressing as miniature men, so that what is incongruous about them is the appearance of childhood with the setting of maturity. Those who adopt the clothes suitable for childhood or infancy, and go about with adults, have no difficulty in escaping unwelcome curiosity. This was well shown in two cases under my observation, in one of which a boy of 14 dressed and posed as a baby without anyone detecting the deception. He for a time played the leading rôle at one of the London theatres, coming on alternately as a baby in arms and as a man about town, and acting both parts with intelligence and distinction. The other, almost until the age of 30, had no difficulty in passing himself off as a child, so that he travelled on the railway with a half ticket without comment. After that age his slightly wizened appearance led to his age being questioned, and he could not longer carry on the deception. Both these cases were examples of asexual ateleiosis. Sexual ateleiotics have more marked physiognomies, more assurance, more mature figures, so that apart from their facial hair they are not so likely to be mistaken for children.

Although ateleiosis is conveniently divided into three classes, it must be recognised that these divisions are artificial, and that, just as it occurs in early fœtal life and is confused with other causes of abortion, so also it may not begin until after puberty and perhaps account for the juvenile appearance of some middle-aged people.

[4] Nouvelle Iconographie de la Salpêtrière, tome xxi., 1908, p. 300.

Sporadic Occurrence.

The sporadic appearance of ateleiosis is a noteworthy feature. Common or symptomatic infantilism seems to favour large centres of population where the conditions which give rise to it are rife. Plumbic, alcoholic, malarial, syphilitic infantilism must be more common in those parts in which there is more exposure to lead, alcohol, malaria, or syphilis, and similarly with other forms of symptomatic infantilism. On the other hand, it is possible that ateleiosis, although scattered in its distribution, may be more common in some parts than in others, and the same is true of other sporadic diseases, such as sporadic cretinism and osteomalacia. Possibly it is more common in Italy and France, where the standards of height and of duration of life are a little lower than they are in America, in Great Britain, and in Scandinavia, where stature and development strike a higher average. On the other hand, a large number of ateleiotics met with in variety shows come from Germany or from Austria. Evidently but little can be said upon this topic until ateleiosis is more widely known and reliable figures are forthcoming.

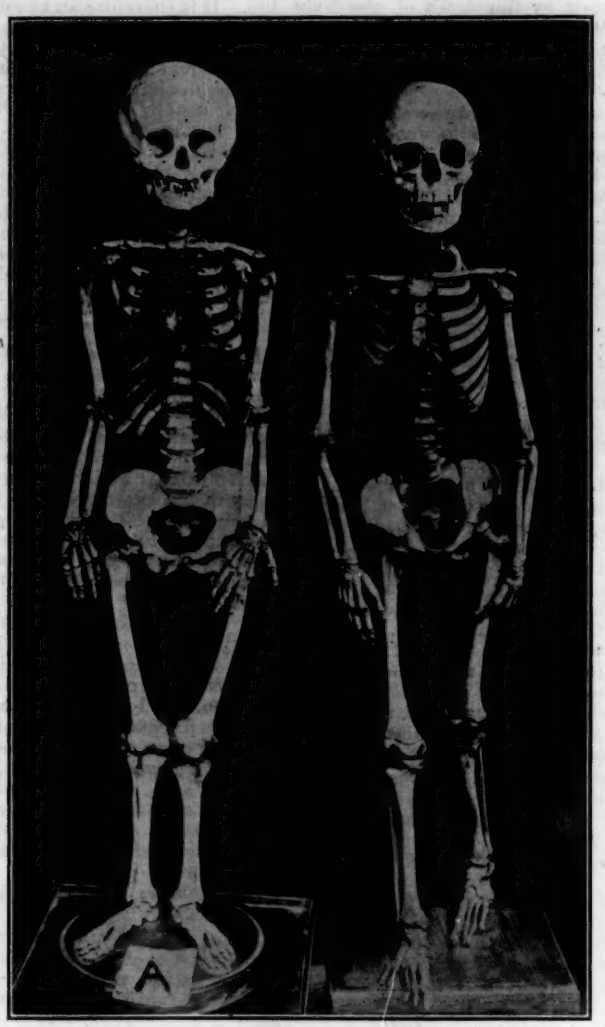
Ateleiosis is Essentially an Infantilism and not a Dwarfism.

Although there can be no doubt that the asexual form is a pure infantilism, the sexual form is sometimes described as "dwarfism," and even as "essential dwarfism." The decision as to what constitutes dwarfism and what infantilism turns upon the nature of growth and of development. If sexual ateleiosis be an affair of growth it is dwarfism; if it be an affair of development it is infantilism. Now, I think it can be satisfactorily shown that it is an arrest of development. This is best accomplished by taking for our example a characteristic and well-known case. And we can hardly do better than select for our type case Charles Stratton, widely known as General Tom Thumb. Although it is true that we have but few details about him, and no accurate measurements of his height, yet we have all that we require for present purposes. In the first place his height, physiognomy, and proportions were conspicuously undeveloped. His nose was of a turned-up or snub pattern, and his face, as shown in some of his earlier portraits, taken when he had reached maturity, was short, his forehead vertically rounded. His body was of childish conformation, not only in respect to its roundness of outlines and to the shape and proportions of thorax and abdomen, but also as to the comparative length of trunk and limbs and of the segments of the limbs. In all these respects he showed stereotyped childhood. Indeed, one may go farther, and say that his formation was immature in respect to his height, for whereas his height was undoubtedly childish his proportions and conformation were infantile. So that whether we regard him from the point of view of his age or of his height his was a case of infantilism. In other words, he was not only conspicuously undergrown but was also underdeveloped. As for his sexual and mental development, they apparently arrived at maturity, for his wife, an ateleiotic of remarkable similarity, gave birth to a child. To make sure of this fact I have got the death certificate of this child, Minnie Warren Stratton. It certifies that she died at Norwich in 1866, at the age of 2 years, from "congestion of the brain," with convulsions.

The many important details missing in this outline sketch of Charles Stratton may be filled in from the records of other cases, especially from Rischbieth's description of the Magri family and Ettore Levi's of the Magro family, both of which may be found in the "Treasury of Human Inheritance."

Account of a Specimen in Anatomical Museum of Cambridge University.

I have recently seen a skeleton bearing every evidence of being that of a sexual ateleiotic which serves admirably to demonstrate the infantilate characters. This valuable specimen is in the anatomical museum of the University of Cambridge, and I am greatly indebted to Professor Macalister for permission to examine the skeleton and to have photographs taken. Some of these photographs I now show you. In one it is standing beside the skeleton of a normal child of six. (See figure.)



The ateleiosis skeleton (A) at Cambridge standing beside the skeleton of a child of six.

On the label which goes with the skeleton it is written: "The Skeleton of a Dwarf purchased in Paris and presented by Professor Humphry. —It is the skeleton of a man who had passed the middle period of life. The epiphyses are all ankylosed, the sagittal sutures and the upper part of the lambdoidal are closed, the masseteric, deltoid, and some other muscular ridges are rather pronounced, and there are bony outgrowths from the margins of some of the bodies of the vertebræ. All the upper molar and premolar and two incisor teeth, as well as the lower premolar and two molars, are gone and their alveolar processes have been absorbed. The bones are all well formed and well proportioned one to another."

Professor Sir G. M. Humphry has also published a short description of it elsewhere,[5] in which he says: "The dimensions are as follows: Height, 41 in. (104 cm.); skull, greatest circumference, 19 in. (48·2 cm.): antero-posterior measurements, 6·6 in. (16 cm.); transverse, 5·2 in. (13 cm.); vertical, 4·4 in. (10·8 cm.); spine (skull to sacrum), 13·5 in. (33·7 cm.); clavicle, 3·5 in. (8·5 cm.); scapula, 4·5 in. (11·5 cm.); humerus, 6·9 in. (17·2 cm.); radius, 5·2 in. (12·9 cm.); hand, 4·3 in. (10·5 cm.); pelvis between the iliac spines, 7 in. (17·7 cm.); transverse of brim, 3·2 in. (7·9 cm.); antero-posterior (conjugate), 2·2 in. (5·3 cm.); femur, 10 in. (25·4 cm.); tibia, 8 in. (20·4 cm.); and foot, 5·8 in. (14·4 c.m.)."

In the same article Professor Humphry referred to other dwarfs, including Bébé, Boruwlaski, Charles Stratton, Jeffrey Hudson, and to the pygmy tribes in Africa, and contrasted with these elegant dwarf skeletons "an ill-proportioned and unseemly skeleton from rickets" (osteogenesis imperfecta) which he had also presented to the museum.

In Professor Humphry's first case there is evidence that the arrest of development was greater than the arrest of growth. Thus, when we compare it with the skeleton of a normal child of six, which was just one inch shorter, the dwarf skeleton seems to be the younger in the following particulars. The trunk is longer and the limbs shorter, especially the upper limbs. The thorax is much more conical, like that of an infant. It tapers markedly from the eighth rib upwards, whereas in the child the thorax is of the usual pattern for a child of 6 and much more like to that of the adult. The hands and feet are relatively smaller. One of the most obvious of the signs of immaturity, and which

[5] Brit. Med. Jour., 1891, vol. ii., p. 1187.

specially serves to stamp the skeleton as ateleiotic, is the marked shortness of the face as compared with the height of the skull; and of still more significance is the presence of a conspicuous depression at the root of the nose. Moreover, the nasal bones, which are short, project in a way which indicates that the nose during life was of the tip-tilted or snub kind. In all these particulars the dwarf skeleton is infantilate. And this is also manifested in the state of the mastoid process and of the mandible, as well as of the upper maxilla. These are of infantile type, the infantilism of the mandible being shown by the depth of the body and by the slope of the ramus. In the frontal region similar immaturity is indicated by the contour of the forehead and by the infantile appearance of the supraorbital region.

This short and very imperfect account of this interesting skeleton will serve to show that it certainly did not come from a race of dwarfs and that there is no known pathological condition except ateleiosis which could account for the appearances found. And this ateleiosis was evidently of the sexual variety, seeing that all the epiphyses are fused, that the muscles during life were evidently of good development, and that apparently the only part which is in advance of the child's skeleton from a morphological point of view is the pelvis. Although there is arrest of growth constituting dwarfism, this is not so pronounced as the arrest of development or infantilism. Evidently the infantilism is the essential feature and at the bottom of the whole series of changes. In some respects this skeleton shows evidences of maturity, although these are superimposed upon those of infantilism. Thus the pelvis, as we have just seen, though still of childish pattern, is more expanded and of more advanced type than that of the child, and this is what we might expect in the skeleton of a sexual ateleiotic. The bones, though elegantly formed, are slightly thicker than those of the child, and their muscular prominences and grooves are decidedly more conspicuous. This is particularly to be noticed in the bones of the arms, forearms, and mandible. In the mandible there is a thin flange of bone projecting prominently from the angle of the otherwise infantile jaw. In the advanced state of its epiphyseal ossification the skeleton is frankly adult.

To sum up the peculiarities of this specimen we may say that in some respects it is like that of a child of about 6 years of age, in others it is infantile, and in yet others it is adult. Of all these features the primary and dominant are those which indicate infantilism. The skeleton is that of a male affected with sexual ateleiosis. The irregularities we have noticed indicate that ateleiosis is more than a mere abnormality. It is associated with disturbances of growth and of development and is therefore a disorder.

Other Skeletons.

So far four dwarf skeletons bearing evidence of pronounced delay of development have been recorded. One was described by Schaafhausen, of Bonn, another by Arnold Paltauf, of Vienna, another is in the museum of the Royal College of Surgeons of Edinburgh, and the fourth is in this museum. In the Vienna and the Edinburgh specimens the sella turcica is moderately enlarged. Schaafhausen does not mention the state of the sella in his case. In the specimen in this museum the sella is normal. In the skeleton of the Cambridge dwarf there also appears to be nothing abnormal about the base of the skull. Although the skull-cap has not been taken off it is possible clearly to see the whole of the base through an aperture in the top of the skull, and also to examine it with the finger passed through the foramen magnum. The part played by the pituitary body in infantilism will be dealt with more fully in my next lecture.

The ateleiotic skeleton in this museum appears to be unique. It is that of Caroline Crachami, in whom the disorder evidently began during fœtal life. It is therefore an example of ateleiosis of the first class. Death took place at the age of 9 years. In addition to this skeleton there is also present in the museum a portrait in oils of the living Caroline Crachami, and in the library is a short account of her written by Sir Everard Home. We have therefore the great advantage of getting important knowledge of the case from three different aspects. These all tend to the conclusion that Caroline Crachami was an example of fœtal asexual ateleiosis. I have myself published a somewhat inadequate description of this case[6] and Professor Keith[7] has elsewhere made some observations upon it in a paper which contrasts the skeleton with that of a case of progeria, also in this museum.

Relations of Sexual and Asexual Ateleiosis.

Of still more importance in serving to stamp sexual ateleiosis as a form of infantilism rather than of dwarfism is the fact that, generally speaking, there is no line of demarcation between sexual and asexual ateleiosis. There are cases which show all gradations between them. In some cases of sexual ateleiosis there is evidence of great delay in the maturation of the sex organs. Thus in the case of Boruwlaski growth did not cease until he had attained the age of 30, and he himself says in regard to his sexual state and perceptions that "at the age of 25 I was like other young lads of 15." He married at 40 and had three children of ordinary stature. Yet two years after his marriage he was still a child in appearance, and this childishness was the occasion of many ludicrous mistakes. For example, the doctor who attended his wife during her first pregnancy could not for a time be made to understand that the little fellow who stood by the bedside was not a child but was Boruwlaski himself and the lady's husband. Boruwlaski's account of himself is very reliable, for he was a gentleman of great intelligence, and of charming simplicity and uprightness of character. His history, size, physiognomy, and proportions all show that he was undoubtedly an example of ateleiosis.

There are yet other cases on record in which ateleiosis was at first of the asexual and afterwards of the sexual variety, the sexual defect having continued until long after the individual had arrived at maturity.

I have myself seen and published a case[8] in which ateleiosis ran through three generations, the father and grandfather being sexually perfect, whereas the grandson at the age of 14 had the sex organs of a new-born child. Ettore Levi[9] has also under the heading of "microsomie

[6] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxv., 1903; Disorders of Post-natal Growth and Development, 1911, p. 599.
[7] THE LANCET, Feb. 1st, 1913, p. 312.
[8] The Disorders of Post-natal Growth and Development, 1911, p. 606.
[9] Nouvelle Iconographie de la Salpêtrière, tome xxiii., 1910, p. 522.

essentielle" described a similar case occurring in two generations, in which a father sexually perfect but of conspicuously infantile physiognomy and proportions (sexual ateleiosis) is pictured side by side with his ateleiotic child aged 12½ years with bilateral cryptorchidism. It is possible that in course of time these two children will acquire adult sex characters, but whatever may happen in after-life their condition as described is that of asexual ateleiosis, for it is not essential to our conception of that disorder that the infantilism of the reproductive organs should persist throughout life. In many cases it doubtless does so persist; in others sexual development is seriously delayed, and in others it is normal. But the point I wish now to bring forward is that we must regard all these manifestions of idiopathic sporadic hereditary infantilism as belonging to one group. We ought not artificially to separate them into dwarfs and infantilates. The fundamental change is one of development. All are examples of infantilism, whether the evidences of developmental defect be small or great. Such evidences are present in greater or lesser degree in all cases, and combine with other characters to form a syndrome which is distinct from that furnished by any other morbid condition.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Feb. 19th, Sir Francis H. Champneys being in the chair. A letter was considered from the Local Government Board transmitting copies of the Order requiring the notification of all cases of ophthalmia neonatorum. The Board decided: (*a*) that the Local Government Board be thanked for their communication and be asked whether in respect to any future Orders proposed to be issued by them which affect in any way the duties of the Central Midwives Board under the Midwives Act, 1902, or the rules made under the Act, a confidential draft could be laid before the Central Midwives Board for their consideration before it is finally settled; and (*b*) that the chairman be asked to confer with the Local Government Board or their principal medical officer on the Ophthalmia Neonatorum Order just issued. A letter was considered from a certified midwife complaining of her suspension by the local supervising authority. The Board directed that the county medical officer of health be reminded that no case of suspension not imposed by the proper authority, reported to the Board and recorded in its register, could be upheld by the Board.

DONATIONS AND BEQUESTS.—The late Mr. G. C. Dobell, of Liverpool, has left £1250 to the Royal Infirmary for the endowment of a bed, and £200 each to the David Lewis Northern Hospital, the Royal Southern Hospital, the Stanley Hospital, and the Hospital for Women.—The Royal Infirmary, Edinburgh, and the Royal Hospital for Incurables, Edinburgh, will each receive £3500 under the will of the late Mr. Charles Bruce.—The following bequests to London hospital charities under the will of the late Mr. Charles Ansell have now become payable—namely, £50,000 to King Edward's Hospital Fund for London, £10,000 each to Charing Cross, Middlesex, St. George's, St. Thomas's, Westminster, Guy's, St. Bartholomew's, and the London Hospitals; and £4000 each to the following institutions: King's College Hospital, University College Hospital, Royal Free Hospital, Great Northern Central Hospital, Cancer Hospital, Brompton Hospital for Consumption and Diseases of the Chest, City of London Hospital for the Diseases of the Chest, Royal Hospital for Diseases of the Chest, London Fever Hospital, London Lock Hospital, Royal London Ophthalmic Hospital, Royal Orthopædic Hospital, Queen Charlotte's Lying-in Hospital, National Hospital for Diseases of the Heart, Hospital for Diseases of the Throat, Nose, and Ear, Royal Hospital for Sick Children and Women, Great Ormond-street Children's Hospital, and Victoria Hospital for Children.

THE MORBID ANATOMY OF TUBERCULOSIS IN MAN.[1]

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THERE must be few in this gathering who have not formed very strong opinions upon the subject of tuberculosis, either from experience at the bedside or as the result of long-continued research in the laboratory. To each of us, doubtless, our own opinions possess the great merit of satisfying the canons of common sense and reason. But many difficulties are in the way of those who, like myself on this occasion, have to attempt to collate and coördinate these varied opinions, and have to present a reasonable and connected account of even one department of work upon tuberculosis. I have come to the conclusion that it is impossible to reconcile these opposing views, and I think that it will be better to discuss them in the light of my own experience, and in doing so shall advance from the general to the more particular.

A. *Statistics dealing with Large Numbers of Individuals.*

It will prove useful, to commence with, to inquire what information can be gained by the study of tuberculosis as it attacks large numbers of individuals of both sexes, at all age-periods, and in different countries and cities, and to use the results to correct local experiences and data. With this end in view I have investigated the Registrar-Generals' returns in England and Scotland, and the results are shown in the following tables.

TABLE I.—*Death-rates from Tuberculosis in England and Scotland, per Million Living, at 11 Age-periods.*

Abstracted and calculated from the Registrar-Generals' reports. England, 1891–1900; Scotland, 1891–1900; 1901–1910.

Age-periods.	England, 1891–1900.			Scotland. 1891–1900.			Scotland. 1901–1910.		
	All tubercle.	Phthisis.	Tubercle, not phthisis.	All tubercle.	Phthisis.	Tubercle, not phthisis.	All tubercle.	Phthisis.	Tubercle, not phthisis.
All ages ...	2010	1391	619	2361	1684	677	2090	1380	710
0–5	3930	413	3517	3841	516	3325	3760	403	3357
5–10	724	206	518	1165	376	789	1170	300	870
10–15	669	368	301	1196	745	451	1090	560	530
15–20	1396	1144	252	2485	2124	361	1930	1510	420
20–25	1936	1730	206	2979	2701	253	2430	2100	330
25–35	2302	2135	167	*3014*	*2821*	*193*	*2530*	*2250*	*270*
35–45	*2742*	*2592*	*150*	2772	2617	155	2310	2100	210
45–55	2492	2362	130	2093	1971	122	1980	1790	190
55–65	2007	1881	126	1682	1573	109	1560	1380	180
65–75	1263	1154	109	1105	1021	84	1090	910	180
75 upwards.	512	437	75	542	466	76	502	391	111

The most notable fact brought out by Table I. is that in countries so closely related as England and Scotland the conditions of life and apparently the possibilities and modes of infection are so different that the maximum death-rate from tuberculosis

[1] Being a report presented at the International Conference on Tuberculosis at Berlin, Oct. 23rd, 1913.

is reached in England during the 35 to 45 age-period, whereas in Scotland it is reached during the 25 to 35 age-period. The table also shows the predominance of other forms of tuberculosis than phthisis (tabes mesenterica, "scrofula," meningitis, osteitis, and arthritis) in the earlier age-periods, and their progressively diminishing importance as age advances. Further, taking Scotland alone, it will be noticed that while the death-rate from phthisis is steadily falling, being 168 per 100,000 living in the decennium 1891–1900, and 138 per 100,000 living in the decennium 1901–1910, thus continuing the decrease noticed during preceding decennial periods, the death-rate from other forms of tuberculosis, on the contrary, seems actually to be rising at each age-period.

Table II. shows the differences in the corrected death-rates from tuberculosis in different burghs in Scotland during the first six months of 1913, the statistics available for that period being the first in which the deaths are all referred to the burgh of which the deceased had been an inhabitant.

TABLE II.—*Scotland, January to June, 1913. Corrected Death-rates in certain of the Larger Burghs.*

—	Population to middle of 1913.	Total deaths from all causes.	Deaths from tuberculosis—		
			Total number.	Per 100 of all deaths.	Per 1000 of population living.
All Scotland	4,733,700	39,417	4369	11·08	1·84
Perth	20,200	291	28	9·60	2·77
Greenock	77,800	762	106	13·90	2·72
Inverness	21,300	194	26	13·50	2·44
Glasgow	1,021,500	9,442	1178	12·40	2·30
Paisley	85,600	691	92	13·30	2·15
Coatbridge	43,400	361	45	12·46	2·07
Dundee	165,900	1,522	169	11·10	2·03
Falkirk	35,600	259	33	12·70	1·85
Aberdeen	162,700	1,562	150	9·90	1·84
Edinburgh	320,300	2,474	286	11·56	1·78
Kirkcaldy	40,000	287	34	11·80	1·70
Airdrie	24,000	185	14	7·50	1·16
Forfar	10,400	85	4	4·70	0·77
St. Andrews	15,000	80	5	6·25	0·66

It is evident that these rates do not vary in correspondence with the numbers or density of the population. Local conditions must exist, such as variations in the rainfall, different habits of life, and other factors which react on the local death-rate.

Death-rates at Different Age Periods.

Hillenberg gives in one of his papers a table (Table III.) showing the death-rates from tuberculosis per 10,000 living in Prussia at all ages. The corresponding rates per 1000, per 100,000, and per 1,000,000 can readily be calculated. Hillenberg's table shows an increase in the tuberculosis death-rates, progressing more or less regularly from the 5 to 10 age-period, to the 60 to 70 age-period, at which the maximum is reached. In the male there is a progressive increase to the 50 to 60 age-period, whereas in the female it is practically stationary between the 20th and 40th years, and after that year it sinks, except for the 60 to 70 age-period.

TABLE III.—*Tuberculosis Death-rates per 10,000 living in Prussia during the Year 1909.*

Age.	Male.	Female.	Both sexes.
0 to 1	24·92	22·35	23·65
1 „ 2	17·01	15·52	16·17
2 „ 3	8·87	8·96	8·91
3 „ 5	6·17	6·01	6·09
5 „ 10	4·00	4·99	4·49
10 „ 15	4·02	6·77	5·39
15 „ 20	11·64	14·64	13·13
20 „ 25	20·76	20·46	20·61
25 „ 30	18·59	20·29	19·44
30 „ 40	20·71	20·98	20·85
40 „ 50	25·21	16·17	20·60
50 „ 60	32·18	17·26	24·30
60 „ 70	30·88	19·83	24·80
70 „ 80	20·91	15·20	17·69

My results for Scotland for the decennium 1901–1910 are different, and though presenting the actual figures in Table IV., a clearer demonstration is afforded by drawing out graphic curves, the regularity of which speaks for their approximate correctness. (See Chart.) For the purpose of simplifying this procedure the Scottish Director of Medical Statistics, Dr. Crauford Dunlop, has had the rates determined for me per 1000 living, and I gladly acknowledge his kind help in these difficult calculations.

TABLE IV.—*Scotland, 1901–1910. Death-rates per 1000 Living at Different Age-periods. All forms of Tuberculosis; Phthisis; Abdominal Tuberculosis; Malignant Disease.*

Age-periods.	All tubercle.		Phthisis.		Abdominal tuberculosis.		Malignant disease.	
	M.	F.	M.	F.	M.	F.	M.	F.
All ages...	2·17	2·00	1·41	1·34	0·22	0·21	0·75	1·09
0 to 1 ...	6·79	5·35	0·56	0·47	2·01	1·44	0·02	0·01
1 „ 2 ...	6·39	5·32	0·73	0·62	1·76	1·55	0·02	0·03
2 „ 5 ...	2·37	2·15	0·34	0·33	0·68	0·57	0·03	0·02
5 „ 10 ...	1·09	1·25	0·24	0·37	0·26	0·29	0·01	0·01
10 „ 15 ...	0·85	1·34	0·34	0·78	0·15	0·18	0·02	0·01
15 „ 20 ...	1·67	2·20	1·28	1·75	0·09	0·13	0·03	0·03
20 „ 25 ...	2·48	2·38	2·15	2·05	0·07	0·09	0·05	0·05
25 „ 35 ...	2·54	2·49	2·28	2·22	0·05	0·09	0·12	0·19
35 „ 45 ...	2·41	2·22	2·20	2·00	0·04	0·08	0·43	0·87
45 „ 55 ...	2·42	1·58	2·21	1·41	0·04	0·05	1·53	2·42
55 „ 65 ...	2·08	1·11	1·87	0·97	0·04	0·03	3·93	4·64
65 „ 75 ...	1·50	0·79	1·30	0·62	0·03	0·04	6·60	6·69
75 „ 85 ...	0·69	0·49	0·58	0·33	0·02	0·01	7·85	8·03
85 upwards	0·35	0·17	0·24	0·13	0·00	0·00	7·14	7·74

The highest death-rate occurs during the first year of life. It then falls rapidly until the third to fourth year is reached, then somewhat more slowly to the 5 to 10 age-period. Thereafter, in the *female* it rises slowly during the 10 to 15 age-period; rapidly during the 15 to 20 age-period; and again slowly during the 20 to 25 age-period, to reach a maximum between 25 and 35; then it falls gradually during the later periods, the curve after the 35 to 45 age-period being slightly concave upwards. In the *male* the fall continues until the 10 to 15 age-period is reached; then rises rather abruptly, but remains much lower than the female rate during the 15 to 20 age-period. During the 20 to 25 age-period it rises above the female rate, and continues above it during the remaining age-periods, the curve having, in contrast to that of the female, its *convexity* upwards, thus indicating a very consider able increase over the female death-rate,

particularly between about the forty-fifth and seventieth years.

Upon these curves I have superimposed others showing the death-rates in each sex from phthisis pulmonalis, abdominal tuberculosis, and from all forms of malignant disease. The contrast between the phthisis death-rates and the general tuberculosis death-rates is striking during the earlier years; and in the later years the apparent diminished incidence of tuberculosis on the female sex is shown to be, in part at least, accounted for by the greater number of deaths from malignant disease, not to mention the accidents of pregnancy. Whence I conclude that we should not build too much upon the apparent death-rate from all forms of tuberculosis, and also from phthisis, during the successive quarters of the first year of life.

B. *Hospital Statistics.*

Following upon these general statistics I wish now to present some statistics derived from the post-mortem records of the Edinburgh Royal Hospital for Sick Children.

Although only to a modified degree applicable to tuberculosis as a disease affecting the whole country, data derived from hospital sources in large centres are, nevertheless, of great interest. In judging their value one must bear in mind that

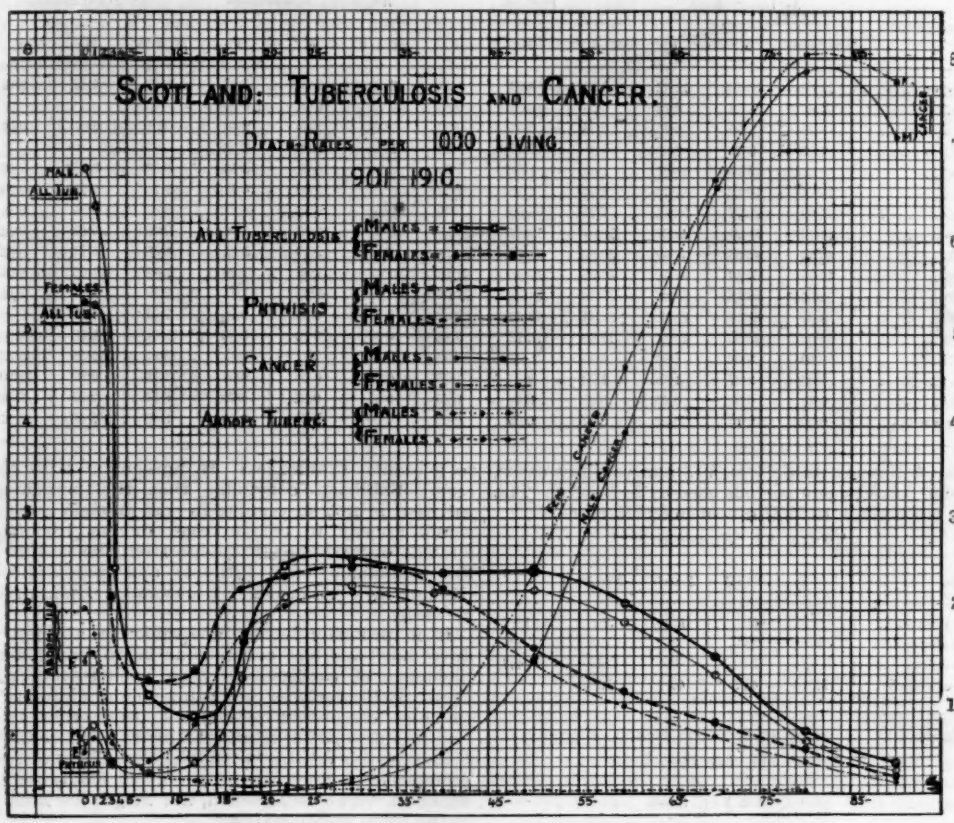

Chart showing the death-rates in Scotland during 1901–10 for tuberculosis and cancer. (See Table IV.)

diminution of the death-rate in the female sex, at the later ages, which is shown in Hillenberg's table.

The next table (No. V.) shows the tuberculosis death-rates in relation to the death-rates from all causes and at all ages. While this table is not suited for discussion but more for leisurely contemplation, I would draw attention to one fact shown by it—that is, that during the 15 to 20 age-period the female death-rate in Scotland from tuberculosis is over 50 per cent. of the total deaths in the female sex at that period. The corresponding maximum rate in the male is reached during the 20 to 25 age-period. Another feature is the rapidly progressing increase in the percentage

the majority of the inmates of such institutions come from the poorer and generally more badly housed and fed classes of the community. I have formerly used portions of these records for two papers, published in 1900 and 1909. For the purpose of preparing this report my successor, Dr. Carnegie Dickson, has very kindly allowed me to consult the records for the last three years, those for the period intervening between 1902 and 1910 not being immediately available.

During the periods June, 1886, to April, 1902, and December, 1910, to August, 1913, 1416 children of all ages up to the age of 14 underwent post-mortem examination. Out of that number 562, or 36 per cent., either died from tuberculosis or having died

from other causes showed evidences of tuberculous infection in a latent active or latent inactive stage. Latent cases formed not more than about 4 per cent. of the total number of tuberculous cases. In point of fact, if one were to judge from experience of necropsies only, the remarkable absence of traces of tubercle in the children who died from other diseases would almost justify the opinion that practically all children infected with tuberculosis sooner or later die from that disease. This is practically the view held by Geipel.

afford a comparison with H. Albrecht's percentages.

From perusal of these tables it will be seen that my Edinburgh results correspond more closely with those of Albrecht than with those of de Besche and Sehlbach.

Statistics presented in the above fashion are regarded as proving the statement that as age increases the incidence of tuberculosis also rises; but if my cases are separated into single year periods the appearance of a regular increase is not so evident. (Table IX.) In agreement with this result Sehlbach concludes that the percentage increase is not so regular in post-mortem cases as would appear to be the case during life from clinical observations, to judge from the results of the cutaneous (von Pirquet) and percutaneous (Escherich) reactions (Reuschel, Hamburger, McNeil).

TABLE V.—*Scotland, 1901–1910. Death-rates per cent. of Deaths from all Causes: Tuberculosis and Malignant Disease.*

Age-periods.	All tuberculosis.			Phthisis.			Abdominal tuberculosis.			Malignant disease.		
	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.
All ages	12·60	12·78	12·42	8·31	8·30	8·31	1·29	1·30	1·28	5·57	4·39	6·74
0 to 3/12	0·80	0·83	0·73	0·05	0·04	0·05	0·32	0·34	0·30			
4/12 to 6/12 ...	5·70	5·60	5·70	0·46	0·44	0·50	2·15	2·09	2·15	0·01	0·01	0·01
7/12 to 1 year ...	7·90	8·20	7·60	0·91	0·94	0·86	2·42	2·64	2·12			
1–2	12·56	13·14	11·91	1·45	1·51	1·39	3·55	3·61	3·48	0·06	0·05	0·06
2–5	18·63	19·52	17·73	2·74	2·76	2·69	5·15	5·60	4·71	0·20	0·21	0·20
5–10	27·72	28·77	28·62	7·16	5·80	8·44	6·46	6·37	6·55	0·32	0·34	0·2.
10–15	38·33	31·74	44·27	19·57	12·67	25·80	5·79	5·62	5·95	0·46	0·60	0·32
15–20	46·62	40·56	52·69	36·50	31·07	41·96	2·69	2·17	3·22	0·69	0·77	0·62
20–25	46·95	46·43	47·47	40·63	40·28	41·03	1·62	1·35	1·89	1·02	1·00	1·04
25–35	38·24	38·18	38·28	34·12	34·22	34·04	1·06	0·80	1·31	2·39	1·84	2·91
35–45	24·74	24·59	24·91	22·44	22·40	22·48	0·65	0·45	0·86	7·03	4·37	9·76
45–55	12·59	13·00	11·11	11·40	12·72	9·92	0·31	0·24	0·38	12·71	8·82	17·09
55–65	5·00	6·02	3·93	4·43	5·40	3·43	0·11	0·11	0·11	13·81	11·35	16·37
65–75	1·83	2·27	1·44	1·52	1·96	1·13	0·06	0·05	0·07	11·16	9·98	12·20
75–85	0·47	0·52	0·43	0·35	0·44	0·29	0·01	0·02	0·00	6·54	5·93	6·98
85 upwards ...	0·09	0·13	0·07	0·07	0·09	0·05	0·00	0·00	0·00	2·93	2·60	3·11

The following table (No. VI.) analyses my cases, divided into the age-periods used by de Besche. The ages were given in 1277 out of my 1416 cases.

TABLE VI. (*Shennan*).

Ages	0 to 1	1 to 3	3 to 5	5 to 14	—
Total number ...	381	418	171	307	= 1277
Non-tuberculous	314	236	86	144	= 780
Tuberculous ...	67	182	85	163	= 497
Percentages ...	17·6	43·5	49·7	53·1	

Table VII. is made up from de Besche's paper.

TABLE VII. (*de Besche*).

Ages	0 to 1	1 to 3	3 to 5	5 to 14	—
Total number ...	56	28	14	34	= 134
Non-tuberculous	44	17	7	14	= 82
Tuberculous ...	14	11	7	20	= 52
Percentages ...	24·2	39·3	50·0	58·8	

Sehlbach's percentages are as follows: 0 to 1 year, 7·2 per cent.; 1 to 3 years, 26·1 per cent.; 3 to 5 years, 50 per cent.; 5 to 9 years, 47·5 per cent.

In Table VIII. my results are arranged so as to

TABLE VIII.

Ages	0 to 1	1 to 6	6 to 14	—
Total number...	381	650	246	= 1277
Non-tuberculous	314	353	113	= 780
Tuberculous	67	297	133	= 497
Percentages (Shennan)...	17·6	45·7	54·0	
Percentages (H. Albrecht)	14·6	44·0	50·0	

It is probably hardly advisable to attempt to draw hard-and-fast conclusions as to the general incidence of tuberculosis from such statistics as these, particularly as they can be manipulated so as to show discordant results. I think that more correct information is afforded by the earlier tables I have given dealing with great numbers of individuals, even allowing for errors in diagnosis, the effect of which is lessened, the larger the number of the cases under review.

Particulars of the Edinburgh Cases.

In my former papers (1900 and 1909), based upon the records of the Edinburgh Sick Children's Hospital for the years 1886 to 1902, I analysed the cases of tuberculosis in some detail, but I may restate here shortly some of my conclusions and add others.

Sex incidence.—Of the children who died from tuberculosis at all ages up to 14, males predominated over females in the proportion of 55·1 to 44·8; but if these numbers are calculated in relation to the numbers of each sex dying in the hospital from all causes and examined post mortem, I find that 40·6 per cent. of the females died from tuberculosis, compared with 38·8 per cent. of the males, so that the sex incidence does not correspond with that for the whole of Scotland. (See Tables IV. and V.)

TABLE IX.

Ages	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-14
Total number	381	299	149	92	79	61	58	54	38	32	25	22	17
Non-tuberculous ...	314	161	75	52	34	31	23	30	12	19	12	9	8
Tuberculous	67	108	74	40	45	30	35	24	26	13	13	13	9
Percentages ...	17·6	40·1	49·6	43·5	57·0	49·2	60·3	44·4	68·4	40·6	52·0	59·1	52·9

Of the 497 children who died from tuberculosis (Table VI.) 334 were 5 years old or under. If Cobbett is correct in stating that one-third of all cases of tuberculosis under the age of 5 years are caused by infection with the bovine bacillus, then 112 cases—i.e., 8·7 per cent. of the total number of children (1277), or 22·5 per cent., of the tuberculous cases—were infected from bovine sources. I shall, however, have more to say on this subject in connexion with tuberculosis of cervical lymphatic glands and of bones and joints.

Tuberculosis of lymphatic glands.—In the cases occurring during the period 1886–1902 the lymphatic glands showed evident tuberculosis in 83·7 per cent. The thoracic glands were affected in 69·2 per cent. and the abdominal glands in 54·4 per cent.; both thoracic and abdominal glands in 39·9 per cent.; the thoracic glands alone in 29·5 per cent.; and the abdominal glands alone in 13·5 per cent. The corresponding figures for 1910–1913 were 69·4, 53·1, 45·0, 29·7, 15·3, 13·5. This is shown more clearly in tabular form. (Table X.)

TABLE X.

	1886–1902.	1910–1913.
Lymphatic glands tuberculous	83·7	69·4
Thoracic glands tuberculous	69·2	53·1
Abdominal glands tuberculous	54·4	45·0
Both groups affected together	39·9	29·7
Thoracic glands alone tuberculous	29·5	15·3
Abdominal glands alone tuberculous	13·5	13·5

These results are of interest in showing that the percentage diminution in the case of thoracic gland tuberculosis is considerable, whereas that of abdominal gland tuberculosis has remained practically stationary. An explanation of this may be found in the fact that for the last 25 years institutions (Tuberculosis Dispensary and Hospital) have existed in Edinburgh, whose efforts have been directed towards the control of open tuberculosis in man, and hence may have helped to reduce the chances of infection from human sources; though one must not forget the steady reduction in the tuberculosis and phthisis death-rates which has been going on since the middle of last century. (See also Table I.)

Relationship of tuberculosis of lymphatic glands to other tuberculous lesions.—During the 1886–1902 period, the mediastinal glands (root, bronchial, and tracheal) were tuberculous in 33 cases, or 11·7 per cent., without evidence of any tuberculosis of the lungs, whether recent or chronic. The abdominal glands (mesenteric, retroperitoneal, cœliac, and hilic) were caseous in 105 cases, or 47·5 per cent., without any ulceration of the intestines and in 73 cases, or 33 per cent., without any excavation of the lungs. Ulceration of the intestine without excavation of the lungs was found in no fewer than 111 cases, or 22·5 per cent., of the whole series (1886–1902 and 1910–1913). Taking the whole number of tuberculous cases, 497 (Table VI.), the immediate cause of death was tuberculous meningitis in 228 cases, or 45·8 per cent.

These statistics prove again what I have always held—viz., that statistics showing the incidence of tuberculosis in any one country or city must not be accepted as wholly applicable in the case of any other country or city. I wish to emphasise this point very strongly, as it is constantly disregarded.

The Nature and Modes of Infection in Tuberculosis: General Considerations.

Before passing on to discuss the morbid anatomy of tuberculosis in relation to infection in that disease, I must refer to Cornet's localisation law, and consider whether any alteration of opinion with regard to that law is necessary in view of recent work upon the nature and course of primary infections, secondary infections, and reinfections; upon hypersensitiveness (allergy) and immunity; upon latency of tubercle bacilli and lymphoid hyperplasia.

Cornet's localisation law.—This law, which has been recognised more fully on the continent than in Great Britain, states that the portal of entry, at least in tuberculosis, is invariably indicated by the fact that a primary lesion is produced at the point at which the infective agent has invaded the body, as well as by the concomitant disease produced in the regional lymphatic glands of the organ first attacked, and which are therefore related to the point of entry.

Many important authorities now maintain that the facts which have been disclosed in connexion with the development of increased susceptibility to infection, following a primary inoculation with a bacterium, have so profoundly altered our conception of the course of an infection that Cornet's law no longer holds, or at least that it requires to be modified in important respects.

Primary and secondary infections and re-infections, hypersensitiveness, &c.—Bartel and Neumann, Hart, and others state that if an experimental animal already inoculated with tubercle bacilli be injected with virulent tubercle bacilli the resulting disease takes a course quite different from that taken by a first infection. For example, secondary metastatic lung tuberculosis can be produced under these conditions without an appreciable lesion at the point at which the secondary infection has taken place, the lungs having apparently become very susceptible to metastatic infection, whereas the rest of the body has become increasingly resistant. Arguing from these experimental results, these authors conclude that, as doubtless human phthisis in most cases develops in an organism which has been already once infected, the post-mortem appearances can no longer be trusted to decide the portal of entry of the virus. With Oettinger and Wittgenstein they hold that the lungs react, even though only a few bacilli reach it. Austrian comes to a similar conclusion. On the other hand, Hamburger, Römer, Sata, and others maintain that a small reinfecting dose is of no effect in producing disease; that diminished infectiveness is shown to a moderate-sized reinfecting dose; but that immunity is

actually decreased to a large reinfecting dose of bacilli.

Latency of tubercle bacilli.—The above question is associated with the fact, which is now well recognised, that tubercle bacilli may lie latent in the lymphatic glands, possibly for long periods of time (von Behring, Weichselbaum, Bartel, Harbitz), and these authors state that a reinfection may occur from these glands without visible histological changes in the gland tissue. But Beitzke shows that a spread of tubercle bacilli by the blood stream never takes place in the child during the latent stage, or it occurs only under exceptional circumstances. In his positive cases the latent bacilli were always found in glands which drained a possible portal, and never in peripheral glands; hence those glands could not have been infected through the blood stream. Further, Beitzke has never succeeded in demonstrating the presence of latent bacilli in the lymphatic glands in children without being able at the same time to detect, either with the unaided eye or with the microscope, evidences of their presence and action, and he concludes, apparently with good reason, that an isolated tuberculosis, wherever it is situated, indicates with great certainty the portal of entry. Joest and Emshoff agree with him that in experimental animals true latency of tubercle bacilli in lymphoid tissue cannot be proved, seeing that they could always detect histological changes. Steffenhagen and Ungermann consider that latency in glands is rare in childhood. Whipple found that bacilli which had penetrated the mucous membranes without producing visible local lesions caused disease in the regional glands in the great majority of instances. One must bear in mind that in the human subject the regional glands are much more numerous than in the ordinary experimental animals, and constitute a succession of barriers to invasion, tending to act, particularly in the child, as a bacteria-proof filter. There is also justification for the belief that the longer the bacilli lie latent the greater is the tendency for their virulence to diminish, although other recognisable characteristics may remain unaltered (Kossel, Weber and Heuss; Weber and Steffenhagen; Neufeld, Dold, and Lindemann; Gratia, Moeller, Lignières, and others), a state of active immunity, doubtless imperfect in most cases, being in the meantime gradually established. I would also suggest that we should not neglect to consider the possibility that in natural human infections virulent bacilli lying apparently latent in lymphatic glands may have entered the body recently—more recently, in point of fact, than is indicated by the age of tuberculous processes already present in the body. Natural infection in tuberculosis is often a repeated infection by small numbers of bacilli.

For the above reasons, therefore, excluding cases in which a generalised blood infection has involved the lymphatic glands simultaneously with the other organs and tissues of the body shortly before the fatal event, I would conclude that a tuberculosis of lymphatic glands indicates an infection from the portal or organ drained by them; and that usually the primary portal of invasion is indicated by the greater age of the tuberculous process in its regional glands. One cannot equally affirm the invariable correctness of the other part of Cornet's localisation law—viz., that a local lesion is always found at the point of entry, it being now generally conceded that tubercle bacilli can penetrate an apparently normal mucous membrane without leaving a trace of their passage. The important observations on allergy, or hypersensitiveness, contributed chiefly by the Vienna school, afford an explanation of the views, already strongly held and fully appreciated, that a tuberculosis of the bronchial glands does not necessarily in every case locate the primary portal of infection in the lungs, seeing that infective agents, at whatever point they enter the body, sooner or later reach the lungs and their regional glands. Similarly it is recognised that a tuberculosis of the mesenteric glands, either with or without ulceration of the intestine, is not always of necessity a deglutition tuberculosis. Hence, while I cannot admit the correctness of Baumgarten's view that an inhalation tuberculosis is never a primary pulmonary tuberculosis, but a generalised tuberculosis, I believe that a primary infection, in addition to causing the lesions in the regional glands guarding the portal of entry, may be followed by a lymph-hæmic spread and development of tuberculous foci, it may be of somewhat chronic course, in different organs. This would, for example, explain those puzzling cases in children in which isolated and contemporaneous, chronic, caseous, or fibro-caseous foci are found in lungs, kidneys, spleen, liver, and occasionally in the meninges, in association with the rapidly progressive recent lesions which have brought about death.

Lymphoid hyperplasia.—Bartel was the first to direct attention to the fact that one of the first results of invasion of the lymphatic glands by tubercle bacilll was a hyperplasia, and he regards this change as somewhat characteristic; but Beitzke demonstrated clearly that other causes can produce the same alteration, and while admitting that a relationship undoubtedly exists between tuberculosis and lymphoid hyperplasia, he claims that the latter is not pathognomonic of tuberculosis. Otherwise one might be tempted to assume a relationship between lymphatism also and tuberculosis. There seems to be no doubt that the lymphatic glands are especially prone to tuberculosis (Steffenhagen, de Besche, H. Albrecht, Ely, Rillet and Barthez, Guthrie, Still, Shennan, Leslie, Burckhardt, Stirnimann, Engel, Escherich, Hamburger, Kossel, Finkelstein, Lapage and Mair, and others). As a matter of fact, tuberculosis of the child is generally regarded as essentially of the nature of a tuberculous lymphadenitis. Possibly this predisposition may be more apparent than real, seeing that guardians of a portal, under ordinary conditions thoroughly efficient, may be overcome by an excess of an invading host.

Baumgarten, Bongert, and Oehlecken succeeded in infecting lymphatic glands by way of the blood stream in the case of experimental animals. Huguenin reports a remarkable case of generalised tuberculosis of the lymphatic glands in a woman 82 years of age, the other organs of the body being apparently unaffected.

The Portals through which Tubercle Bacilli Invade the Human Body.

Tubercle bacilli may enter the body at any part of the cutaneous surface, or at any point in the various (internal) channels and passages communicating with the surface. The cutaneous and genital route (inoculation) is seldom taken, and of the internal channels the respiratory and the alimentary tracts afford the readiest access to the body. Before one may attempt to determine which of these two is the more important, it is essential to have accurate knowledge of the finer anatomical relationships of

these tracts to the lymph- and blood-vascular systems, and it is also essential that the conclusions drawn must be in harmony with what we know of general pathological processes in man and of infection generally. I am afraid that a considerable amount of the almost overwhelming literature on tuberculosis, if submitted to these tests, would have to be rejected.

The respiratory tract.—Seeing that most authorities agree that the tubercle bacillus enters the human body most easily and most frequently through some part of the respiratory tract, it seems fitting to discuss this portal first. In doing so it will be necessary to refer to opposing views as to the greater importance of invasion by way of the alimentary tract, and perhaps it will be better to focus attention on the question of the portals of invasion in tuberculosis of the lungs and their regional glands (the bronchial glands, including the hilic or root glands).

This question has been the one most debated of recent years, and the alteration in the general outlook of many writers upon this subject illustrates the remarkable extent to which the pendulum of authoritative scientific opinion may swing in diametrically opposite directions. Before 1903, when von Behring presented his views on the universality of alimentary infection during early life, and on the latency of tuberculous infection, and the elaboration and extension of these views by Baumgarten, Weichselbaum, Bartel and Neumann, Ritter and Vehling, Calmette and his followers, Vansteerberghe and Grisez, Guèrin, Whitla, and many others, everyone believed that pulmonary tuberculosis was the result of an airborne and respiratory infection, except in certain cases in which it was metastatic—i.e., secondary to a primary tuberculosis elsewhere in the body. But now some authors, some of whom I have mentioned, hold that the portal of primary invasion in man in tuberculosis is *always* the alimentary tract, and that tuberculosis of the lungs is invariably lymph-hæmic in origin, and never directly aerogenic. In all vocations and activities of life extreme views, though often undoubtedly leading to progress, are not infrequently found to be unsafe guides. Tuberculosis, I submit, cannot be an exception to this rule; as has already been shown, in point of fact, in connexion with the view that man never suffers from bovine tuberculosis. It is evident, as Bulloch puts it, that the question is not so much one of aerogenic *versus* ingestion or deglutition, as of aerogenic *versus* lymph-hæmic invasion of the lungs and bronchial glands, and I may proceed to state the arguments supporting or opposing the different main theories.

Aerogenic infection.—Till comparatively recently, and, I think, depending on some old experiments of Pasteur, it was held that if air be respired through the proper channels—that is, through the nasal cavities—to the lower respiratory passages it reaches the pulmonary alveoli in a sterile condition, the organisms and other suspended particles being deposited mechanically on the surfaces of these channels. Arguing on the same lines, while not denying that air, inspired by individuals who live in close association with open cases of pulmonary consumption, does contain tubercle bacilli, many authorities hold that these bacilli do not reach the ultimate bronchioles and vesicles, but become entangled in the mucus of the bronchi, and being carried upwards in this are swallowed or expectorated by the individual. While granting that this does take place, there seems absolutely no reason to doubt that tubercle bacilli, entering with the inspired air, can and actually do succeed in reaching the vesicles. Many experimenters—e.g., Beitzke and Cobbett—have clearly demonstrated that dust particles and bacteria (e.g., B. prodigiosus) can readily penetrate to the ultimate air passages and vesicles. Further, the balance of opinion is on the side of the view that guinea-pigs and cattle can be more readily infected with tuberculosis in inhalation experiments than in feeding experiments and with a comparatively small number of bacilli.

The pneumonoconioses.—Passing away from tuberculosis for a moment, let us now consider the manner in which the lungs become pigmented in the pneumonoconioses or "dust diseases." In the case of anthracosis or coalminers' lung all the evidence from the side of morbid anatomy favours the aerogenic origin of the pigmentation in the human being. Even granting that Calmette and his followers are correct in holding that pulmonary anthracosis can be developed in laboratory animals by feeding with carbon, except in the case of very young animals, why is it that in man, at whatever age the body be examined, so little evidence can be found of the passage of carbon through the intestinal walls and through the mesenteric and retroperitoneal lymph nodes? No doubt in the adult one occasionally sees accompanying extreme pigmentation of the lungs some moderate carbon pigmentation of the glands above the lesser curvature of the stomach, but similar pigmentation of the *mesenteric* glands at any stage of pulmonary anthracosis is very rare, if indeed it ever occur at all to any appreciable extent. The amount of carbon pigmentation of the cœliac and hilic glands can readily be explained by the absorption from the upper part of the alimentary tract of minimal quantities of the carbon which has been swallowed entangled in the mucus of the respiratory tract, or which has been conveyed by lymphatics from the pleura over the surface of the liver to the hilic glands. The abdominal pigmentation is of secondary importance and certainly does not indicate a primary alimentary portal.

A still stronger argument can be deduced from the morbid anatomy of silicosis or lithosis of the lungs—stonemasons' lung. This disease, as is well recognised, predisposes to tuberculosis, and Cesa Bianchi has demonstrated that it is easier to infect guinea-pigs with tubercle bacilli after they have been made to inhale different kinds of dust, but at present I am concerned with silicosis as a dust disease only. In the most extreme case of silicosis I have seen, in which I had to use the saw to make sections of the lungs, I found considerable pigmentation and condensation of the hilic and cœliac lymphatic glands, but no similar changes were found in the mesenteric and lower retroperitoneal glands. One cannot accept the view that these abdominal glands could possibly have permitted the passage of such quantities of siliceous and carbon particles as were required to produce the stony hardness and dense pigmentation of the lungs and bronchial glands. As a matter of fact, no one seriously denies that the lung condition in silicosis is directly due to aerial convection of the siliceous particles. Another important point is that the area of greatest condensation of the lung in silicosis extends from the root upwards and outwards, just in the position in which tuberculosis so often attacks the lung in early adult life. Silicosis is

certainly aerogenic, why not tuberculosis, at least in the adult?

Again, supposing that in primary pulmonary tuberculosis the infective agent is invariably carried to the lung in the blood stream, then we should expect in most cases to find the two lungs with their regional glands affected to an approximately equal extent, but this is not usually the case in man, even in the child. Both Still (1901) and I myself (1900) independently remarked the greater prevalence of tuberculous caseation of the bronchial glands on the right side. Albrecht has also noticed the same feature. Out of 183 cases I found the glands more affected or alone affected on the right side in 123 (67·2 per cent.); and in 60 cases (32·8 per cent.) those on the left side showed either a more advanced tuberculosis or were alone affected. It has been absolutely proved (Beitzke, Hart, Most, and others) that these glands are the regional glands of the lungs, Weleminsky's theory that the bronchial glands act as a sort of lymph heart, receiving all the lymph of the body by special channels from the upper and lower parts of the body, having now no authoritative support.

Even in view of the anatomical fact that the glands related to the right bronchus are more numerous than those related to the left bronchus, we have to explain the greater tendency of tuberculosis to attack these right bronchial glands as a group.

Furthermore I find that out of 127 cases of excavation of the lungs in children under the age of 15, in 28 per cent. the cavity or cavities were limited to the left lung, in 42 per cent. to the right lung, while in the remaining 30 per cent. both lungs were affected. Taken along with the greater prevalence of tuberculosis of the regional glands of the right lung, this affords another strong argument against the hæmic origin of pulmonary tuberculosis as being the rule. I have ascertained that in Edinburgh the medical officers connected with the Victoria Tuberculosis Hospital and Dispensary find that phthisis pulmonalis more often begins on the right side. In the child the slightly greater size of the right lung is insufficient plea to advance against my argument, and there is absolutely no reason to suppose that the right lung rather than the left is a *locus minoris resistentiæ*. I should also expect that the distribution of the lesion in a blood infection would more regularly bear a close analogy to that of the abscesses and embolic infarcts in cases of pyæmia. The capillaries of the lungs are the widest in the body, and they allow small emboli to pass through, which are subsequently caught in the smaller capillaries, for example, of the kidney. Now renal caseous tubercles are by no means commonly found at post-mortem examinations, except in young children.

I am, therefore, forced to the conclusion that in the adolescent and adult a hæmic infection of the lungs is by no means so important as the aerogenic infection in the vast majority of cases of pulmonary tuberculosis. It is reasonable to suppose that the tubercle bacillus, like other morbific agents in nature, takes the shortest route and the line of least resistance to reach its goal, and in the case of the lungs this route is the aerial.

But, while to my mind the above conclusions are rational and true, they by no means exclude the hæmic route as a channel by which the lungs may be attacked, particularly if hypersensitiveness has developed, and especially in children. For the settlement of this difficult question the work of Weichselbaum, Bartel and Neumann, and that of Calmette and the French school generally, afford us real assistance, because it is difficult to understand why the lungs should be so vulnerable. At first sight one would suppose that these organs, constructed as they are of fibrous and elastic tissue, covered with strongly phagocytic epithelium and endothelium, and richly supplied with blood through both the pulmonary and the bronchial arteries, should be highly resistant to the attacks of an organism like the bacillus tuberculosis, to which man as a class has developed some measure of immunity.

Hart and Cobbett maintain that the lymphatic glands guarding the alimentary portal are better trained in defence against organismal invasion than are those guarding the respiratory portal. As Hart says, the former have been the battleground (Tummelplatz) of countless millions of organisms, whereas the barriers to be crossed before organisms can enter the respiratory tract are so efficient that few of them reach the bronchial glands to train them to resistance. This is true to a certain extent, but is not sufficient to explain the great frequency of tuberculosis of the respiratory tract, and, further, Calmette claims that, when properly administered, no greater number of bacilli are required to cause an alimentary infection than a respiratory one.

The true condition of matters would seem to be that in primary lung tuberculosis there is no special hypersensitiveness of the lungs to tuberculous infection, but that primary infections are due to long-continued attacks of tubercle bacilli, whether from the air or from the blood. The conditions are altered, however, when hypersensitiveness has developed. Robert Koch was the first to show that an animal after being infected once with tuberculosis becomes more susceptible to the action of the same organism when reinjected. This doctrine has been elaborated by von Pirquet, Weichselbaum, Bartel, and others, and is now well recognised under the name of allergy given to it by von Pirquet. It is unnecessary to discuss the relationship of allergy to immunity. It will suffice to say that many believe that an extremely small dose of the infective agent on re-inoculation may increase the resistance, while a considerable reinfecting dose leads to severe pathological changes, with, in the guinea-pig, tuberculosis of the lungs, as well as the tuberculosis of the spleen which commonly follows a primary infection. Austrian maintains, in opposition to the above, that even a minute reinfecting dose may cause severe pulmonary changes in an allergic animal. Bartel and Neumann regard the lung in every form of tuberculous infection as a *locus minoris resistentiæ*. H. Albrecht refers to the possibility that a widespread interference with the lymphatic circulation may render the thoracic organs more liable to infection by the production of a *habitus phthisicus*.

The date of reinfection is evidently of importance, and if a considerable reinfection occur comparatively shortly after a primary infection it will ordinarily be followed by rapidly progressing tuberculosis, and apparently the resistance of the lungs especially is reduced. This would explain the extensive and rapidly progressing caseous pulmonary tuberculosis which we so often see in early childhood, in many cases spreading into the lung from caseous root glands.

This does not exhaust the possibilities in

childhood. I believe that in early years a lymph-hæmic infection of the lung is not uncommon; but in view of what I have already said one must walk warily, and consider not merely the condition of the lungs as seen post mortem, but also that of the other organs, and especially the solid abdominal organs. I have observed in many cases of tuberculosis in infants that small caseous or fibro-caseous nodules occur in small numbers in the spleen, kidney, liver, in one or both lungs, and occasionally in the meninges.

These are only very exceptionally associated with excavation of the lungs, either recent or advanced. They may be associated with tuberculous ulceration of the intestine, but more often accompany tabes mesenterica and tuberculosis of the bronchial glands. The nodules in the lungs may be located at any point, but are frequently peripheral. Now this association of contemporaneous foci in widely separated organs must indicate a blood or lymph-hæmic infection.

Very little, so far as I know, has been done in the way of determining, by animal inoculation and separation of the causal organism, the type of the bacillus causing these lesions and its probable portal of entry. The other aspect of the question is also interesting—namely, how seldom these caseous foci appear to be associated with pulmonary excavation, and this problem also deserves further attention.

In these cases it is not permissible to regard the caseous or fibro-caseous pulmonary focus as necessarily the primary focus in the body, and I think H. Albrecht is in error in doing so. It also raises the question whether, even if one finds a small chronic focus in the lungs, one can state dogmatically that this is the focus from which the bronchial gland tuberculosis also present has originated. This may be due to a separate new aerogenic or lymph-hæmic infection.

(To be concluded.)

A COMPARISON OF THE ACTIONS OF CHLOROFORM AND ETHER ON THE BLOOD PRESSURE.[1]

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SINCE dealing briefly with this subject on a former occasion,[2] when my remarks were confined entirely to the action of the two anæsthetics during their administration, I have endeavoured to follow up my observations and to extend them to the period subsequent to operation. The result of those observations is a corroboration of the view which I previously expressed—viz., that in presence of severe shock chloroform anæsthesia is preferable to ether. In support of this the blood pressure observations of which I am going to make use are taken from a series of 211 cases, of which 120 are chloroform administrations and 91 ether administrations. Wherever practicable one or two readings have been made some time previously to operation, one reading on the patient's arrival in the theatre, and as frequent readings as possible during the operation. It has often been difficult to obtain readings in the early part of the administration, because, as well as the disturbing effect on the patient, during struggling it has not been possible. Latterly, in addition to those readings, observations have been continued for some time after the operation—for 48 hours, or in some cases longer.

The instrument which I used in estimating the blood pressure was Martin's modification of the Riva-Rocci sphygmomanometer, and in all cases the systolic pressure is referred to.

In classifying anæsthesia I have made use of four stages: (1) the stage of excitement; (2) the stage of light anæsthesia; (3) the stage of surgical anæsthesia; and (4) the danger stage.

It is necessary to preface my remarks on the blood pressure by pointing out that it is influenced by causes other than the action of the anæsthetic. The principal of these are shock and collapse. Crile defines shock as "a condition resulting from a fall in general blood pressure due to exhaustion of the vaso-motor centres," and collapse as "a condition resulting from a fall in the general blood pressure due to inhibition of the vaso-motor centres or a loss of the circulation fluids." Mummery, in his Hunterian lectures,[3] stated that "shock may be produced in two main ways: (1) by injury to important afferent nerve paths; and (2) by exposure or injury of the abdominal viscera." He further points out that the former of those two causes may at first cause a rise of blood pressure, due to stimulation of the pressor fibres which sensory nerves contain, but later, on those becoming exhausted, a fall, due to stimulation of the depressor fibres; and also that no structural changes accompany shock, as evident from the fact that no lesions are found in persons dying from shock, and that when recovery takes place it is complete.

As to the direct action of the two anæsthetics on the blood pressure, independently of intercurrent factors, based on experimental and clinical observations there is unanimity of opinion that chloroform causes a fall, but that the effects with ether vary, no very pronounced change taking place. The following charts are a very few examples, taken from typical cases, illustrating the behaviour of the blood pressure under the two anæsthetics. The illustrations have been divided into two classes, those in which the operation involved a slight degree of shock, and those in which it involved a severe degree of shock.

1. *Cases in which the Operation Involved a Slight Degree of Shock.*

(*a*) *Chloroform.*—In this class the blood pressure, after the fall which accompanies the induction of anæsthesia, remains at about the same level until the latter part of the operation, when, along with a less deep anæsthesia, it begins to rise again. For some hours after the operation there is usually a slight drop, followed by a rise to a point a little below the patient's normal.

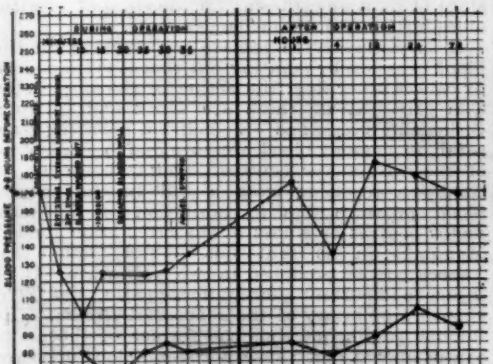
CASE 1.—A man, aged 56, a moderate drinker. Arterio-sclerosis; chronic bronchitis. Heart: Loud second sound at aortic area; no murmurs. Operation: Cystotomy; removal of papilloma. Anæsthetic: Chloroform on open mask, then by Vernon Harcourt inhaler; 35 minutes. After violent struggling during induction the pressure fell 68 mm. At this point the anæsthesia was very deep, and with a lighter anæsthesia the next reading was 23 mm. higher. Towards the end of the operation a further rise took place. One hour after the operation the pressure had risen to a point about the patient's normal. Then, four hours after the finish of the operation, a considerable fall took place,

[1] Part of a thesis for the degree of M.D.
[2] Practitioner, February, 1911.
[3] THE LANCET, March 18th (p. 696) and 25th (p. 776) and April 1st (p. 846), 1905.

followed by another rise. There was some hæmorrhage after the operation. (See Chart 1.)

In this case the pulse became slower with a falling blood pressure. It is very unusual to get such a pronounced fall in blood pressure as occurred in this case, though patients whose normal blood pressure is high usually show a

CHART 1.

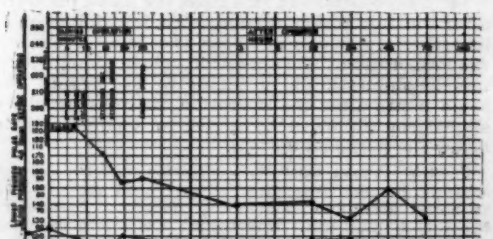


marked fall with the induction of anæsthesia by chloroform. This patient's pressure 48 hours before operation was 170 mm.

(b) Ether.—The induction of anæsthesia is not usually marked by any pronounced change in the blood pressure level. There may be a slight rise or a slight fall. In this first class where the operation causes little shock the early part of the operation is usually accompanied by a slight fall, after this the pressure remaining fairly constant. Afterwards the pressure rises to a point near the patient's normal.

CASE 2.—A man, aged 24. Heart and lungs normal. Operation: Radical cure of inguinal hernia. Anæsthetic: Ether by Clover's inhaler; 26 minutes. The pressure fell slightly during induction and again 7 mm. early in the operation, rising slightly towards the end of anæsthesia. Afterwards the readings were a little lower until at 12 hours a rise was recorded almost to the normal level. The pulse-rate fell very decidedly during anæsthesia, much more than is usual with ether. (See Chart 2.)

CHART 2.



It will be noticed that the reading taken on arrival in the theatre is higher than that taken on the day previous to operation. This is the rule in most cases and is probably to be attributed to nervousness. Janeway says that "mental excitement is the most powerful cause of increased pressure in the normal man."[4]

[4] The Clinical Study of the Blood Pressure, p. 119.

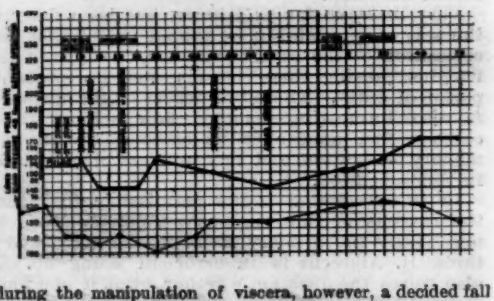
2. *Cases in which the Operation Involved a Severe Degree of Shock.*

The best illustrations of this class of cases are abdominal sections, as any intra-abdominal manipulation is productive of shock.

(a) Chloroform.—After the initial fall of blood pressure due to the anæsthetic any surgical procedure causing shock produces a second fall. The pressure remains low during the early part of the operation, beginning to rise with the closing of the wound. The early readings after operation usually indicate a slight fall, then a gradual rise takes place to about the patient's normal level.

CASE 3.—A stout, nervous girl, aged 25. Heart and lungs normal. Operation: For ventral hernia. Anæsthetic: Chloroform on an open mask; 58 minutes. The excitement stage was accompanied by struggling and screaming. The fall in blood pressure after the peritoneal incision was small;

CHART 3.

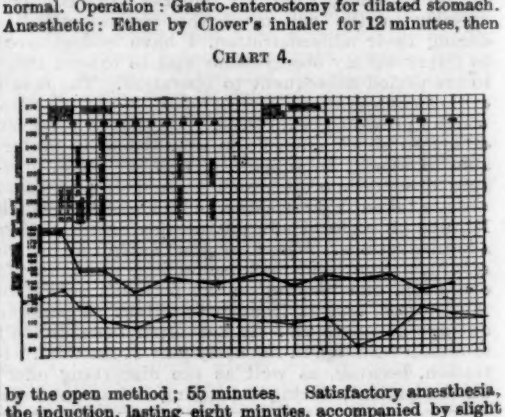


during the manipulation of viscera, however, a decided fall was observed. Following this there was a progressive rise. Unfortunately very few readings could be taken after operation, none being taken between 2 and 24 hours. Both indicated a progressive rise. (See Chart 3.)

(b) Ether.—As a rule, the level reached by the blood pressure in the early stages of surgical shock during ether anæsthesia is not so low as during chloroform anæsthesia. But as the operation advances, and towards its finish, there is a tendency for the pressure to remain low or even to go lower; and during the early hours after the patient's return to bed this downward tendency is still in evidence, there being often an interval of 12 hours or more before a rise commences.

CASE 4.—A well-built but somewhat ill-nourished man, aged 32, a moderately heavy drinker. Heart and lungs normal. Operation: Gastro-enterostomy for dilated stomach. Anæsthetic: Ether by Clover's inhaler for 12 minutes, then

CHART 4.



by the open method; 55 minutes. Satisfactory anæsthesia, the induction, lasting eight minutes, accompanied by slight struggling. At 11 minutes, just before the incision, the blood pressure had fallen 8 mm. (after a preliminary rise). During the first part of the operation there was a fall of

15 mm., then, during the latter part of the stitching of the gastro-enterostomy opening, a rise of 10 mm., the level then reached being maintained till five minutes before the finish of the operation. The last reading in the theatre indicated a slight fall, and this was continued afterwards. Nine hours after the operation a very decided fall to 90 mm. occurred. From this point there was a rise. (See Chart 4.)

I will now sum up the effects of the two anæsthetics on the blood pressure.

(*a*) *Chloroform.*—A fall of pressure is produced throughout the administration of chloroform. With the establishment of full anæsthesia this fall amounts to at least 10 mm. and sometimes considerably more; along with this the pulse beats slower and a varying degree of pallor is present. Surgical shock during chloroform anæsthesia produces a slight further fall of pressure. With the withdrawal of those two depressants—chloroform and shock—the blood pressure exhibits a tendency to rise rapidly, and very often soon reaches a point a few millimetres below the patient's normal.

(*b*) *Ether.*—Little alteration of the blood pressure is produced by ether. It may cause a rise, it may maintain a constant level, or it may cause a fall. It causes more rapid and more forcible cardiac action, with dilatation of the smaller vessels (as evidenced by the flushing which occurs), the latter probably counteracting the former in maintaining the blood pressure level almost constant. With intercurrent shock a considerable fall of pressure takes place, a fall almost equal to the combined effects of chloroform and shock. The subsequent recovery after severe shock is slow, some time elapsing before the blood pressure approaches the normal level.

What influence do those considerations have in the choice of the anæsthetic? In answering this question it is again necessary to differentiate with regard to the nature of the operation into (1) those cases in which only slight surgical shock is to be anticipated, and (2) those cases in which severe shock is to be anticipated.

1. *In slight surgical shock.*—In all cases chloroform causes considerable lowering of the blood pressure, whereas, in this class of cases, there is but little lowering of the blood pressure under ether. With the latter anæsthetic, therefore, the margin of safety is greater than with the former. In this class ether is the anæsthetic of choice.

2. *In severe surgical shock.*—At the end of an operation in this second class the blood pressure shows more tendency to reaction with chloroform than with ether, there is a more decided and better maintained rise with the former. This consideration, it seems to me, should go a long way as a guide to the choice of anæsthetic. At a time when it is of vital importance that patients should be able to make use of all their resources, after chloroform anæsthesia they are better able to do so than after ether.

I do not wish to ignore in any way the danger of chloroform as evidenced by the rapid fall of blood pressure which it produces, particularly in the early stages of its administration. The only death under anæsthesia which I have had occurred under chloroform eight minutes from the time of commencing the administration, and before the operation had been commenced.[5] This case and other less serious experiences have been quite sufficient to impress upon me the care which is necessary in making the choice of anæsthetic, and in the use of chloroform where it is chosen.

[5] THE LANCET, Nov. 12th, 1910, p. 1415.

But there is another point of view, and one the value of which it is much more difficult to estimate. I mean the relative safety of the two anæsthetics with regard to the period immediately succeeding operation. Is it not possible that the anæsthetic may play a part in causing or averting death in the period subsequent to operation, as well as in the chances of rapid recovery? It must also be remembered that the chloroform danger can be lessened by employing ether for inducing anæsthesia, in this way getting over the most dangerous part of the administration. Under those circumstances a change to chloroform produces a less decided fall of blood pressure than where chloroform is used throughout.

After weighing up all those considerations I think that, in this second class, chloroform is the anæsthetic to be chosen; the induction of anæsthesia, however, being effected by means of ether. In this paper it must be understood that I am only considering the two anæsthetics as they affect the circulation, and especially as they affect the blood pressure.

The observations which led up to those conclusions extended over a period of three years, and were quite independent of work done by others, as only latterly have I consulted the literature on the subject. I find that most of the writers have formed conclusions entirely opposed to my own. At the same time, all the writers whom I have consulted base their opinions on the fact that during anæsthesia chloroform produces a fall in blood pressure, ether does not; and as far as I have been able to discover no one has continued observations on the behaviour of the blood pressure subsequent to operation.

Mummery made a series of observations on blood pressure during operation.[6] From these he came to the following conclusions:—

> There is a marked rise in the blood pressure in the early stages of ether anæsthesia, and the net result of all the investigations into the effect of ether anæsthesia upon the blood pressure shows that it tends to remain at its normal level or to be raised slightly throughout the whole period of anæsthesia, any fall in blood pressure which occurs during an operation being due to the steps of the operation and not to the anæsthetic.
>
> With chloroform anæsthesia the results are almost the exact opposite of those with ether anæsthesia. It has always been the opinion of London surgeons that ether anæsthesia is safer in long operations and those where shock is anticipated than chloroform anæsthesia. This fact, based upon clinical observation, is proved beyond all shadow of doubt by blood pressure records of operations. Chloroform anæsthesia is accompanied by a fall in blood pressure during the whole anæsthesia.

Walton,[7] following up Mummery's investigations, agrees with his main conclusions. In dealing at the same time with the treatment of shock, however, he makes a statement which, it seems to me, is quite contradictory: "In no case should any form of stimulant, either brandy, strychnine, or ether, be administered previous to or during the course of an operation." He then goes on to state that the administration of such stimulants leaves the patient in worse condition than if they had not been given. So that, while disapproving of ether as a stimulant, he recommends it as an anæsthetic on account of the fact that it is a stimulant.

Barton,[8] speaking of the open method of ether administration, says: "Given in this way ether has the advantage over chloroform in that it is

[6] Hunterian lectures, THE LANCET, March and April, 1905.
[7] THE LANCET, July 4th (p. 17) and 11th (p. 85), 1908.
[8] Practitioner, November, 1910.

safer and tends to the prevention of shock during operation."

Blumfeld[9] refers to the same subject: "Thus ether tends to keep up blood pressure, and thus to diminish surgical shock. Chloroform, on the other hand, throughout an administration tends to cause a lowering of blood pressure, and thus adds an additional degree to any surgical shock that may be caused by an operation."

In nearly all the literature too much emphasis seems to be placed on the conditions obtaining during anæsthesia and too little on the subsequent state. Dudley Buxton,[10] however, in an article on the relative merits of chloroform and ether in operations for exophthalmic goitre, refers to the latter point: "Though he had employed chloroform he was ready to believe that the open ether method or venous infusions of ether were useful methods. In the latter, however, there was a danger of collapse when the unnatural stimulation of the ether passed off." The same writer[11] in a biographical article on Long, the discoverer of the anæsthetic properties of ether, makes a similar reference: "The very safety of the drug (ether) became its chiefest danger, since etherists were so obsessed by the fact that ether does not lower blood pressure or cause cardiac collapse through depression, that they failed to recognise the perils incident to over-stimulation, especially in asthenic persons."

Brown[12] writing on "Post-operative Shock," after pointing out that shock is due to exhaustion of the cells in the vaso-motor centre, claims that chloroform narcotises these cells and in this way prevents their energy being used up during shock, so that with the withdrawal of the chloroform they regain their activity. Ether, on the other hand, he thinks, does not possess this narcotic effect on the vaso-motor cells, and may even act on them as a stimulant. In summing up he says:—

> And the conclusion to which I am led is that while ether is undoubtedly the safer anæsthetic so far as the time during which the patient is under its influence is concerned, as regards the after-effects shock is more likely to be lasting and serious when ether has been used for a prolonged operation than if we had recourse to chloroform and kept the vaso-motor cells partially narcotised.

The last quotation is in agreement with my own observations. Based on those observations I think that ether is the anæsthetic of choice for short operations or for those operations where little shock is anticipated, while chloroform is better for prolonged operations and for those where considerable shock is anticipated.

Glasgow.

[9] Practitioner, February, 1909.
[10] THE LANCET, March 2nd, 1912, p. 579.
[11] THE LANCET, March 23rd, 1912, p. 818.
[12] Practitioner, August, 1910.

LONDON SCHOOL OF TROPICAL MEDICINE.—Dr. R. T. Leiper, helminthologist of the London School of Tropical Medicine, Surgeon E. L. Atkinson, R.N., who has been seconded by the Admiralty, and Mr. Cherry-Garrard (both of whom accompanied the Antarctic expedition) have started on an expedition to the Far East with the object of ascertaining the mode of spread of trematode diseases of man, especially bilharziasis. Investigations will also be made into ankylostomiasis, which has wrought great havoc among the coolies on the tea and rubber estates. The expedition has been subsidised by a grant from the Colonial Office, and the United States Rubber Company have offered facilities for the study of medical problems on their estates in Sumatra.

A CASE OF CHRONIC JOINT LESIONS IN HÆMOPHILIA.

BY D. W. CARMALT JONES, M.D. OXON.,
PHYSICIAN TO WESTMINSTER HOSPITAL.

ALL writers on hæmophilia emphasise the importance of joint lesions as being among the most frequent, painful, and disabling conditions incident to the disease. Wickham Legg[1] observed that the large joints were chiefly affected, that they became painful, swollen, and full of fluid, and that the fluid sometimes disappeared rapidly in a few days, and sometimes persisted for weeks or months, and also that the effusion frequently recurred. Sir Almroth Wright[2] states that articular effusions occur in practically all cases as soon as active exercise affects the joints, and that the fluid is chiefly clear lymph with or without the addition of red corpuscles; this fluid is not completely absorbed, adhesions occur together with osteo-arthritic changes and partial ankylosis. He also states that the frequency of the attacks decreases with age. Joseph H. Pratt[3] quotes König's classification of the stages, which are: 1. Hæmarthrosis, effusion of blood into the joint. 2. Inflammation, with an addition of serum to the blood, a condition simulating acute tuberculosis. 3. Contraction, scar-formation, ankylosis. The fluid may be completely absorbed; the bone atrophies, but outgrowths are rare. Sir Anthony Bowlby, in his book, Surgical Pathology, states that the hæmorrhages lead to swelling, the clot sets up irritation, the cartilage fibrillates and becomes lipped at the margin as in osteo-arthritis, the synovial membrane is stained and fibrotic, adhesions are formed, but the bones and ligaments are unaffected. The following case illustrates several of these points.

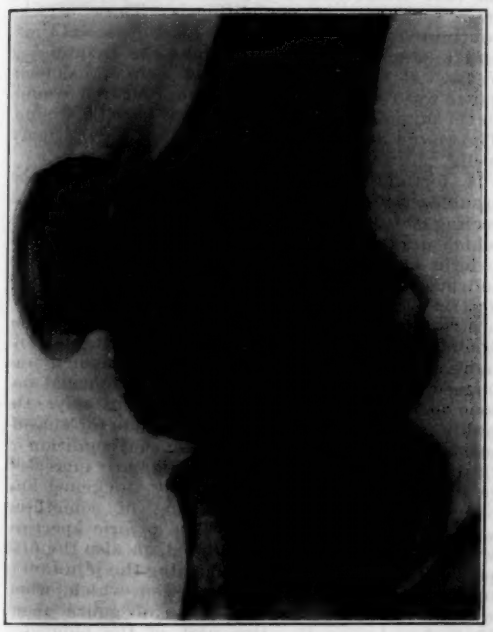
The patient, aged 32, was admitted to Westminster Hospital in December, 1913, suffering from acute arthritis of the right knee. He was very intelligent and gave the following history. He had been known to be a bleeder since the age of 2 years. No information was obtainable about his parents or grandparents; he had one brother and five sisters. His brother bled to death as a boy from a blow on the nose with a cricket bat. Two of his sisters are unmarried, three are married. Of the latter the first has two daughters, neither is a bleeder; the second has a son and daughter, the son is a bleeder; the third has a son and daughter, neither is a bleeder.

The patient had always bled readily from the nose and from wounds; he had been rather unfortunate in the frequency of the latter, and bore numerous scars. After a cut on the head on one occasion his whole head and face were swollen, with effusion into the eyelids. Apart from hæmophilia his health had been very good. At the age of 17 the left elbow became very painful and swollen after a slight injury, but recovered completely after two weeks in splints. He had had similar attacks in this elbow ever since, and after each there was increased limitation of movement. There had been similar attacks in the left wrist. At 18 the right elbow was affected, and he had attacks about every six weeks in this joint, on slight injury, sometimes if he only lay on the limb during sleep. At 19 the left knee was attacked after a fall from a

[1] Treatise on Hæmophilia.
[2] Article, Hæmophilia, Allbutt and Rolleston's System of Medicine vol. v.
[3] Article, Hæmophilia, Osler's System of Medicine, vol. iv.

scaffold, but recovered completely; a similar attack occurred the next year, also with recovery. At 22 the right knee was injured, and went black and blue; since then he had never been able to kneel, but for some years could walk without lameness. Four years later there was a similar attack in this joint after running; it was also the site of the attack for which he was last in hospital. The left ankle had frequently been swollen and transient swellings occurred in the hands, especially in one metacarpo-phalangeal joint. When an attack occurred the affected joint felt weak and stiff, after which burning pain came on which became very severe in five or six hours; sometimes the joint appeared bruised, and sometimes it became tightly distended "like an indiarubber ball." The swelling might subside very quickly, disappearing completely in two or three days, or it might persist indefinitely; the attack then under treatment had lasted six months.

The present condition of the joints is as follows. The jaw, head, spine, and thorax were unaffected. Upper extremities: right shoulder unaffected;



From a skiagram taken with plate on inner side of knee, showing considerable change in surface of patella and condyle.

elbow flexes to 45°, extends to 135° (rough estimation); radio-ulnar supinates and pronates through about 135°; wrists and hands unaffected. Left shoulder unaffected; elbow flexes to 50°, extends to 150°; radio-ulnar supinates and pronates through about 110°; wrist, there is slight limitation in all directions; hands unaffected. Lower extremities: right hip unaffected; knee flexes to 35°, extends to 65° (see figure); ankle unaffected. Left hip and knee unaffected; ankle dorsiflexes to 90°, extends to 135°; foot unaffected.

Blood examinations were made. The coagulation time by Wright's method was observed on four occasions by Dr. J. A. Braxton Hicks with the following results: 14 min., 60 min. 60 min., 30 min. (normal average 5 min.).

A skiagram of the right knee, taken by Mr. E. S. Worrall, shows absorption of cartilage and definite roughening of the articular surface of the femur.

Little can be done for such a condition, but the patient found that hot air baths and gentle massage gave comfort and increased suppleness. The manipulation of such joints is probably not without risk of renewed hæmorrhage, but none occurred in the present case. Hæmophilia is not a common condition, and the joint lesions are interesting as specimens of what is practically a condition of traumatic arthritis.

Wimpole-street, W.

ON THREE CASES OF ECZEMATOUS DERMATITIS PRODUCED BY POISONOUS PLANTS.

BY ARTHUR WHITFIELD, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN FOR DISEASES OF THE SKIN, KING'S COLLEGE HOSPITAL.

MY reason for publishing the following cases is that I wish to draw attention once more to the great importance that attaches to the thorough working out of local causes in the production of so-called acute eczema. In THE LANCET of July 25th, 1908, I drew attention to a series of cases in which apparently eczematous eruptions were caused by local infection with a ringworm fungus; later Sabouraud worked out the variety and published his classical article on the subject. At the time that I published my series ringworm was, of course, well known, but was not suspected as a frequent cause of eczematoid eruptions on the hands and feet.

In the same way the cases to which I am now about to refer are such as are well known and have been frequently published where the sequence of handling the plant and developing the skin eruption has been so close as to call the attention of the patient, but in these cases this sequence was not so obvious, and in two out of the three cases the cause had not been suspected by medical men in charge. The point which I therefore wish to emphasise is that it is not enough to make the diagnosis of acute eczema, but that it is the duty of the specialist to make every effort to run to earth the cause of the eruption before contenting himself with local treatment and possibly the internal treatment of some hypothetical disorder of metabolism.

CASE 1.—The patient, aged 51, was sent to me with eczema of the face. The eruption had bothered her on and off for 13 months, and was said to have been started by kissing an old aunt who had a similar eruption. The disease began round the alæ nasi and on the upper lip, but the red part of the lip was not affected. This distribution made me suspect that it was not due to a dentifrice, which usually causes some dryness of the lip itself. During the year that she had suffered from the disease the patient had been abroad to different parts on two occasions, and on neither occasion had she suffered from the disease. When seen there was a condition of subacute eczema affecting the eyelids and the contiguous portions of the cheeks, so that the skin was reddened, stiffened with œdema, and had a tendency to crack. On inquiry it was found that the patient had a greenhouse in which she grew primula obconica, but she said that she had handled it for years with impunity. Nevertheless, as I had known of cases in which the susceptibility had been acquired, I suggested that she should banish the plants from her greenhouse. The local treatment ordered was lead lotion with a very small amount of liq. picis carbonis added to it, and under this treatment the symptoms subsided at once and did not recur.

An interesting point about this patient is that a

short time ago she wrote to me to tell me that her gardener suffered from an irritating eruption on the arms after moving some foxgloves and King Edward VII. daisies. I have looked up this latter plant in James White's classical monograph, and although he does not mention the chrysanthemum maximum he alludes to a single case due to the ox-eye daisy, leucanthemum vulgare, which is the parent of the chrysanthemum maximum.

CASE 2.—The wife of a medical man was brought to me for very acute eczema of the left eyelids and cheek only. The swelling was so intense that the eye was practically closed and the eyelids had the curious fawn-coloured translucency which is so familiar in acute eczema. The history showed that the disease began with a very sudden onset in June and attacked the right hand and arm, the left forearm, and the left eye. Shortly after the first attack she went to Ireland with her husband for a holiday, and although she bicycled a great deal in all weathers the skin remained perfectly sound. Twenty-four hours after her return home she had another attack, and five or six more attacks in the last three months before I saw her. There had been until the last attack an interval of freedom lasting nearly a month. Inquiry showed that she had primula obconica in her greenhouse for nearly a year, but in the last few days (i.e., just before the last attack) she had been given several more. The primulæ were all abolished and the disease disappeared.

CASE 3.—This case is of great interest, as the plant causing it is rare in this country. The patient, aged 56, was sent to me suffering from acute eczema of the face. When I saw her the attack was beginning to pass off, but the skin of the whole face was red, stiff with œdema, and showed slight fissures at the edges of the eyelids. The history showed that she had moved into a new house in May and had her first attack of eczema in June. She herself put it down to the trouble and work of moving coming on the top of the shock of a sudden family bereavement. She had no greenhouse and only a very small garden, and the only plants that she had were an aralia, some ferns, and aspidistras. After very careful inquiries on these points I then went to other possible sources of local poisoning and at one time thought it might be due to the use of a brass polish, but I found that she had not used any for a long period before the onset of the eruption. I then inquired about hobbies and found nothing there, and lastly thought of possible irritation from a green wallpaper. I had already arranged with her to send me some of this for analysis when she suddenly remembered a creeper on her house which she had forgotten to mention before. It was said to be like a Virginia creeper but was not one. I immediately asked whether it had three leaves or five and was delighted to hear that it had three, As the plant was deciduous and had no leaves at that time I knew I should be unable to identify it and advised that a piece should be sent to Kew Gardens for identification. The report came back, as I expected, that it was Rhus toxicodendron, or the "poison ivy of the United States," and the mystery of the eczema was thus explained.

Robinson in "The English Flower Garden" writes that some unprincipled nurserymen sent it out with a new name as Ampelopsis Hoggi and that it has been distributed in many gardens. Its poison is so virulent that cases of very severe illness and even death have been reported as due to it in America. It is probable that an American physician would have identified the case at once and would not have been three-quarters of an hour, as I was, before arriving at the correct conclusion, but the plant is so uncommon in this country that it was by great luck that I tracked it down.

In conclusion, I would remark that my object in publishing these cases is not so much to draw attention to the plant as a cause of dermatitis as to emphasise once more the importance of searching for an unsuspected local irritant. Eczema from dentifrices containing salol is common, and I have recently had three cases of eczema two of which were due to photographic developer, and one, in a dental surgeon, was due to plaster-of-Paris. The number of these irritating materials is very great, and owing to the fact that only a small proportion of people are susceptible they are often overlooked.

Harley-street, W.

THE FATE OF A PLUG OF IODOFORM GAUZE ACCIDENTALLY LEFT IN THE ABDOMEN.

BY A. E. MAYLARD, M.B., B.S. LOND., F.R.F.P.S. GLASG.,
SURGEON TO THE VICTORIA INFIRMARY, GLASGOW.

A MARRIED woman, aged 33 years, was admitted to the Victoria Infirmary, Glasgow, under my care on May 10th, 1906, suffering from the presence of gall-stones. On the 16th she was operated upon, and 22 stones were removed from the gall-bladder and one impacted stone from the common duct. She left the infirmary quite well, and remained so for four years, until 1910, when she again suffered from symptoms of cholelithiasis. These attacks continuing, she was admitted for the second time, and a stone was removed from the ampulla of Vater. At the operation a long strip of iodoform gauze was conducted down to the sutured wound in the ampulla and led out of the parietal wound. The wound healed and the patient left the infirmary well.

A fortnight later, however, she began to be troubled with a "soreness in the right side and a feeling of fulness in the stomach." The symptoms which gradually developed were all suggestive of pyloric obstruction, and after admission to the infirmary there were succussion and well-marked gastric peristalsis. The inference was that the obstruction was due to adhesions, of which there was abundance encountered both at the first and still more at the second operation. The abdomen was opened with the object of performing the usual no-loop operation of posterior gastro-jejunostomy. On pulling up the first part of the jejunum for anastomosis with the stomach a most unusual condition of the bowel was found to exist. It was greatly increased in size, and the walls were greatly thickened and congested. An indefinite feeling of something within the canal was felt. The pyloric aperture was observed to be widely dilated, as also the first part of the duodenum. On opening the jejunum a foreign substance was at once seen which, when withdrawn, proved to be a piece of gauze about 15 inches in length. One part of the elongated mass passed up into the duodenum, while the other extended down the bowel. The upper end presented a large knob-like appearance somewhat whitish in colour and practically devoid of smell; the lower end was brownish in colour and fæcal in odour. The patient made a complete recovery and left the institution well.

The piece of iodoform gauze used at the second operation led down to the sutured incision in the ampulla of Vater. During the subsequent dressings of the case the question was once raised regarding the removal of the plug. Neither dressers nor nurses had seen it; and as no indication of its presence existed at the wound it was taken for granted that it must have been unknowingly drawn out during one of the removals of the outer dressings to which it had become adherent. The subsequent fate of the plug must have been that,

by pressure, it had ulcerated into the second portion of the duodenum; and once admitted it had been gradually carried on through the normal peristalsis of the bowel. It seems somewhat strange that, having obtained complete admission, it was not carried on much further, even to the extent of being finally ejected per anum. However, although its removal was easy, it had led to impaction and partial obstruction of the canal.

The case is interesting as showing one way in which Nature is capable of successfully overcoming accidents of the kind, and doubtless had the plug been smaller it would have passed per anum and nobody have been any the wiser.

Glasgow.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Specimens.—Three Cases of Cæsarean Section.—Uncontrollable Uterine Hæmorrhage.

A MEETING of this section was held on Feb. 5th, Dr. W. S. A. GRIFFITH, the President, being in the chair.

Dr. HERBERT R. SPENCER showed a specimen of Fibroma of the Hymen, of the size of a pigeon's egg, removed from a married woman, aged 28, a virgo intacta. The tumour was a very cellular fibroma, and was ulcerated on the surface. It grew from the right half of the hymen, which formed its pedicle. Dr. Spencer knew of no record of such a case. The patient remained well after three and three-quarter years.—Remarks were made by Dr. T. G. STEVENS and Mr. CLIFFORD WHITE.

Dr. SPENCER also showed a Degenerated Myomatous Uterus resembling the pregnant organ, weighing 7¼ lb., removed by total abdominal hysterectomy from a virgin, aged 43. It closely resembled a pregnant uterus, which it was thought to be by experienced gynæcologists present at the operation. A section showing four myomata embedded in jelly, the result of degeneration, further increased the similarity. Dr. Spencer pointed out the value of bulging of the lower segment (which he believed never occurred in ordinary pregnancy), and of the absence of ballottement. True ballottement he had never met with in any tumour except the pregnant uterus, but if the jelly in this case had become liquefied it was possible that ballottement might have been obtained.—Remarks were made by the PRESIDENT, Dr. EARDLEY L. HOLLAND, Dr. H. WILLIAMSON, Dr. AMAND ROUTH, Dr. G. BLACKER, Dr. R. D. MAXWELL, and Professor H. BRIGGS.—Dr. SPENCER replied.

Dr. T. G. STEVENS read a short communication on Three Cases of Cæsarean Section. Case 1.—Cæsarean section; labour obstructed by one-half of a uterus diadelphys. The patient, aged 20, was admitted to Queen Charlotte's Hospital on account of obstructed labour due to a pelvic tumour. This was her second pregnancy, the first having terminated normally. On examination the head was found high up and the os three-quarters dilated. There was much œdema of the cervix. A soft tumour was felt behind the cervix bulging the posterior vaginal wall forwards below the head. It was thought to be an ovarian dermoid. It could not be pushed up. Cæsarean section was performed, and difficulty was experienced in releasing the fœtal head from the pelvic cavity. After closing the uterine incision in the ordinary way the tumour behind the uterus was investigated and found to be one-half of a double uterus with its Fallopian tube and round ligament complete. It was freely movable from the pregnant half. As the patient had already gone through one normal delivery it was decided to leave the double uterus alone. A complete decidual cast of the unimpregnated half of the uterus was passed on the third day. The patient did well. Case 2.—Eclampsia; vaginal Cæsarean section. This case occurred in a primigravida, aged 27, in the twenty-fourth week of pregnancy. A great many fits had occurred during the day before admission to Queen Charlotte's Hospital and during the following night. On admission the patient was quite unconscious. The urine was very scanty and loaded with albumin. The fundus uteri reached the level of the umbilicus. There were no uterine contractions, and per vaginam the cervix was long and rigid. Owing to her very serious condition rapid delivery seemed to be indicated, and vaginal Cæsarean section was performed (vaginal hysterotomy). The operation presented no difficulties, the cervix being closed by interrupted catgut sutures. The fœtus and placenta were delivered through the incision without any great trouble. The coma gradually lessened after the operation, and the patient could be roused on the day following to drink fluids. On the third morning after she was conscious and made a very good recovery. When examined on the fourteenth day the vaginal incision and the cervix had healed completely. Case 3.—Uterine fibroids, one impacted in the pelvis, obstructing delivery; Cæsarean hysterectomy. The case occurred in a patient who had been married five years; no previous pregnancy. She was first seen in March, 1913, and found to have a fibroid of the size of an orange low down on the posterior surface of the uterus and others at the fundus. The cervical fibroid could not be pushed above the brim. Pregnancy had practically been prevented during the five years of her married life. As she seemed anxious to have a child, it was suggested that a normal sexual life should be led, and she became pregnant soon after April 1st, 1913. In June the uterus was definitely enlarged, and although the cervical fibroid remained fixed it was decided to let the patient go to term and undergo Cæsarean section. This was done at the Mildmay Memorial Hospital on Jan. 8th, 1914, the uterus being eventrated to see if myomectomy was possible. It was then found that the uterus was very distorted, and that the supposed cervical tumour was really in the lower part of the uterine body, the whole expansion of pregnancy having occurred at the expense of the anterior uterine wall, the posterior being occupied by the large fibroid. There were other fibroids also. Multiple myomectomy, together with Cæsarean section, seemed out of the question, as it involved many incisions and much mutilation. Supravaginal Cæsarean hysterectomy was therefore performed. The case did well, except for troublesome distension and vomiting of large amounts of fluid, accompanied with collapse, which occurred on the eighth and twelfth days, due to dilatation of the stomach.—Remarks were made by the PRESIDENT, Professor BRIGGS, Dr. SPENCER, and Dr. J. D. BARRIS.—Dr. STEVENS replied.

Mr. GORDON LEY showed a specimen of Congenital Sacro-coccygeal Tumour. The specimen had been removed by Mr. J. Preston Maxwell at the Hospital at Yung Chun, China, from the left buttock of a girl aged 16. It had existed since birth, and for 13 years sinuses, discharging sebaceous material, had existed in the gluteal cleft. The specimen consisted of a cyst, lined by skin, into which projected a well-formed hand with three fingers. The skin was covered by hair. In the wall of the cyst were bones, two of which resembled ribs. Accompanying the cyst was a piece of bowel opening on a skin-covered surface. In microscopical sections this resembled the recto-cutaneous junction. Mr. Ley demonstrated that the tumour was a teratoma; he stated that such a tumour might arise (1) from a primary germinal blastomere, (2) from a totipotential cell derived from post-primary blastomere. He pointed out that the inclusion of a twin save along the great longitudinal fissure was impossible, owing to the attachment of the amnion of the parent fœtus. Inasmuch, therefore, that the tumour in the case lay behind the rectum it could not be an included twin. He suggested that the tumour probably arose from an aberrant totipotential cell or from a totipotential cell at the posterior growing point. He was of opinion that the comparative frequency of sacro-coccygeal tumours made the latter hypothesis the more probable.

Professor BRIGGS and Dr. R. A. HENDRY (Liverpool) gave a report on 104 bleeding uteri after hysterectomy. The collection of uteri from the Gynæcological Laboratory of the University of Liverpool between April, 1901, and July, 1913, was arranged in three divisions—(1) 10, aged 28 to 35; (2) 81, aged 36 to 55 (delayed climacteric); (3) 13, aged 50 to 72 (post-climacteric hæmorrhage). Tables were produced —(1) of the position, weights, and measurements of the uterus; (2) of the hæmorrhage, its age incidence, its mode

of onset, its puerperal relation, its duration, and its relation to the thickness of the endometrium; (3) of parity; and (4) of complications. The familiar effects of uterine hæmorrhage vary vastly from a grave secondary anæmia to an almost inappreciable invalidism or inconvenience; the corresponding resourceful management recognises a small percentage of uncontrollable uterine hæmorrhage—clinically important and pathologically attractive to the investigator. A typical bleeding uterus was then described and shown to illustrate uncontrollable uterine hæmorrhage in the absence of an exercisable veto against "the uncontrollable"—a veto founded on the rarity of ultimate failure. Protraction of diagnosis and treatment forcibly promoted hysterectomy. Curettage was reviewed in its efficacy and failure in both exploration and treatment. In non-malignant cases the limiting line against repeated curettage must somehow be drawn. The total 40 local complications from the same or a dissimilar cause, distributed amongst 33 cases, left 71 uncomplicated cases in which the bleeding uterus reigned uninfluenced by collateral local disease. Dr. Hendry, as Ethel Boyce Fellow in Gynæcological Pathology during the past three years, had examined the 104 uteri—3 were sacrificed to mincing in unsuccessful searches for hæmolytic lipoids; 101 were submitted to a histological inquiry in reference to (*a*) the musculature, (*b*) the fibrous tissue, (*c*) the elastic tissue, (*d*) the blood-vessels, and (*e*) the evidences of infection. Under these headings the pathological report was presented in detail—18 post-mortem uteri were examined as controls. Sparse nucleation of the muscular bundles, consistent with hypertrophy or with subinvolution, fallible as evidence of muscular degeneration, was constant in the bleeding uteri before the climacteric. Variations in the fibrous and in the elastic tissues were identical in the bleeding uteri and the controls. With the solitary exception of calcification of the media in the uterus of a 17-para, the vascular changes were also identical in the bleeding uteri and the controls. Of the bleeding uteri four showed an acute infection; and from 12 a chronic infection, either primary or secondary, could not be excluded. No abnormal histological changes could be found in the endometrium, and no relation could be traced between varieties of endometrium and the duration or severity of the bleeding. From the present available clinical and pathological evidence embodied in the report, the thesis was deducible that uncontrollable uterine hæmorrhage was a functional disturbance. The disturbers, local and general, were numerous and varied. Amongst them, arteriosclerosis, fibrosis uteri, chronic metritis, and chronic infective endometritis had been appraised too highly and too widely within the fields of gynæcological pathology and treatment.—Remarks were made by the PRESIDENT, Dr. WILLIAMSON, Dr. J. A. WILLETT, Dr. HENDRY, and Dr. HANDFIELD JONES.—Professor BRIGGS replied.

SECTION OF ANÆSTHETICS.

Intratracheal Anæsthesia.

A MEETING of this section was held on Feb. 6th, Dr. J. BLUMFELD, the President, being in the chair.

Mr. ROBERT E. KELLY read a paper on Intratracheal Anæsthesia. He said that the intratracheal method was an artificial respiratory method first, and an anæsthetisation method secondarily, and that obstructed respiration, the only danger in ether anæsthesia in a large percentage of cases, was absolutely eliminated. After dealing with the physiology of respiration he said that life could be maintained without respiratory movements by forcing air down the trachea, as shown by Meltzer and Auer, and that this had been tried in cases of poisoning when the respiratory centre had been paralysed. In reference to thoracic surgery this method was a great improvement on the "positive and negative" pressure cabinets. In the latter the disadvantages were that the thorax and head were in different atmospheres, and also asepsis became difficult. By this method work had been done in the American experimental laboratories on the heart, lungs, and great vessels in animals. The anæsthetist was entirely out of the way; blood, pus, and vomited matter were not inspired, and extreme accuracy of dosage could be maintained. Owing to the lessened respiratory movements manipulations in the upper part of the abdomen were facilitated. In nearly 300 cases vomiting and sore-throats from passage of the catheter were rare, and no fatalities had occurred.

Mr. H. E. G. BOYLE said that he did not consider the method suitable or advisable for all cases. The anæsthetist should make himself familiar and skilled in every known method of anæsthesia, and should be given an opportunity of seeing every case beforehand, so as to be able to decide what method was most suitable for patient and surgeon. He said that it was pre-eminently suitable for intrathoracic surgery, and mentioned a case of pyopneumothorax in which about 3 ounces of pus had been blown out of the trachea. In cases of goitre the surgeon could pull on the growth with impunity, although care must be taken not to kink the trachea. If required, the patient could easily be brought round sufficiently to cough before completion of the operation. A mixture of oxygen and ether could also be substituted for air-laden ether. It was a satisfactory method for cleft palate, removal of upper jaw, and operations in the neck. In an operation for removal of tongue and glands through the mouth and neck, and in which a ligature of a big vein had slipped, the patient had only been saved from being drowned by his own blood by the presence of the intratracheal catheter, which kept the trachea free. Mr. Boyle considered the introduction of the catheter the most difficult part of the method.

Dr. F. E. SHIPWAY agreed with Mr. Kelly that the method was essentially one of artificial respiration. Among the advantages a free air-way was always present, and cyanosis could not arise; the administration was even and constant; the power of excluding blood, &c., from the larynx and lungs; the field of operation in head and neck operations could be kept sterile. In abdominal operations relaxation was very good and respiratory movement slight, and shock was also diminished. He was strongly of the opinion that the vapour administered by this method should be warmed to body heat.

Dr. M. S. PEMBREY spoke of physiological observations upon intratracheal anæsthesia, made in conjunction with Dr. Shipway and Dr. G. Marshall, who had investigated the blood pressure. The rate of ventilation had averaged about 16 litres per minute and extremes varied from 8 to 30 litres per minute. A rate of 30 litres or more produced apnœa, but this was inadvisable. Respiratory movements showed that the pressure was not too great for the anæsthetised muscles. The ease with which a light anæsthesia could be maintained was the outstanding merit of the method.

Dr. GEOFFREY MARSHALL said that he had taken records of blood pressure during anæsthesia by this method. A Riva-Rocci apparatus was used on the brachial artery. Compared with other methods of anæsthesia, it was striking that there was very slight fall of blood pressure during a long operation. During the operation the blood pressure varied 5–10 mm. mercury about the mean pressure. Blood pressure was found to vary directly with the CO_2 tension.

Dr. WILLIAM HILL considered that insufflation of anæsthetics under pressure was inadvisable except in thoracotomic operations. For goitres, for instance, oro-tracheal intubation with a funnel or Junker's apparatus was all that was needed. He used this method for œsophageal work, and in other operations where there was tendency to obstruction of the trachea. To prevent blood, &c., entering the air passages he used a thin wide rubber collar attached to the oro-tracheal catheter, and which rested on the ventricular bands. Dr. Hill showed patterns of laryngoscopes and the method of introducing the catheters was demonstrated on a patient under cocaine.

Dr. G. A. H. BARTON thought that the endotracheal method had only a limited application and that for ordinary cases it offered no advantages. The sole difficulty lay in the introduction of the tube. In regard to the air pumped from the floor by foot-bellows, he doubted whether this could be considered as sterilised in its rapid passage over the ether.

Mr. T. B. LAYTON said that he had had experience of the method and for throat and nose operations had liked it very much. The great advantage was that there was no need to stop to mop up every trickle of blood that passed to the back of the mouth.

Dr. W. J. MCCARDIE said that the weak point of the method was the depth of anæsthesia necessary to introduce the catheter, and which was frequently not safe in cases of goitre and intestinal obstruction.

Mr. KELLY replied.

SECTION OF OPHTHALMOLOGY.

Sympathetic Ophthalmia.—The Use of Salvarsan in Ophthalmic Practice.

THE adjourned meeting of this section was held on Feb. 16th for the purpose of concluding the discussion on the Use of Salvarsan in Ophthalmic Practice.[1] The chair was occupied by Sir ANDERSON CRITCHETT, the President.

Mr. W. LANG showed a case which, in 1908, developed Sympathetic Ophthalmia following a gunshot wound, contrary to the general belief that sympathetic trouble did not follow injury. Much benefit had occurred from giving salvarsan.—Mr. J. H. PARSONS, discussing the case, thought it showed that sympathtic ophthalmitis was a general infection, and it would be difficult to believe that a purely local condition could persist for three years, the interval between the injury in this case and the subsidence of the sympathetic trouble.—Mr. J. H. FISHER also spoke of two cases in which Mr. S. H. Browning forecast the onset of sympathetic trouble from the blood count.

Lieutenant-Colonel R. H. ELLIOT, I.M.S., continued the debate on the Use of Salvarsan. He said that he had had no experience with neosalvarsan. As he had had an experience of optic atrophy following the use of soamin, he asked the Surgeon-General's assistance in getting reports of cases in which the same calamity followed the use of salvarsan, but none were reported, and he believed the reason was that they did not occur; they were able men and fully on their guard. On the other hand, it was their experience that those cases which presented signs of optic neuritis, of presumably syphilitic origin, acted excellently to the remedy. As the whole of a dose of salvarsan seemed to be eliminated from the system in ten days, he thought any trouble which was likely to arise would be evident in a month or so, after which period no anxiety need be felt. In his large practice in Madras, the intramuscular method was abandoned in favour of the intravenous, largely on account of the pain caused by the former, which in many cases necessitated the use of morphia. A Wassermann test was done in each case, and the administration was not continued after that was negative. In no case did they abandon mercury and iodide, which were given in the intervals. The most startling benefits were obtained in recent or acute cases involving the uveal tract. One man was practically blind, with a congested eye, his vitreous was full of opacities, and a gummatous mass involved the ciliary body, yet within a week of using the remedy he could count fingers at a distance of from 20 to 30 feet. His general nutrition also improved. With muscle palsies and optic neuritis the results were very satisfactory, though not with tabetic conditions. He knew of two deaths following the use of salvarsan, both in marasmic patients, who probably would not have lived long in any case. With regard to sympathetic ophthalmitis, Gifford, of Omaha, from the results obtained in it from atoxyl and salvarsan, argued that it was a general protozoal disease.

Mr. E. E. HENDERSON narrated two cases, one a patient, aged 72, in whom "606" produced excellent results in sympathetic ophthalmia, though the condition was very severe.

Dr. ALEXANDER FLEMING said that when salvarsan was introduced into this country it was said to have ruined many eyes, but there seemed no real evidence that the drug had produced an evil effect on any eye; not any cases of optic nerve trouble had followed its use at St. Mary's Hospital. He preferred salvarsan to neosalvarsan, though the latter was very easy to use. He had never seen much benefit from salvarsan in interstitial keratitis. In one case a chancre of the inner canthus disappeared in a few days under the treatment. In choroiditis the results were very rapid and complete. In one case an Argyll-Robertson pupil, in a case diagnosed by a physician as tabes, became a normal pupil under the treatment.

Major W. S. HARRISON, R.A.M.C., thought that the timidity felt about using salvarsan was largely due to the evil repute of atoxyl and soamin, but there could be no doubt about the beneficial effects of salvarsan. He had seen a case in which omission to use salvarsan on account of its supposed neurotrophic effect on cerebral nerves resulted in a calamity. He proceeded to discuss points in the technique, and expressed the opinion that as all the salvarsan given could not be collected in the urine, probably the drug was not entirely eliminated from the system as soon as was supposed. Still, by spacing out the doses at intervals of not less than a fortnight, any cumulative effect need not be feared. If a case seemed to indicate more frequent doses, he thought there would be little danger. He had not had any catastrophes in his practice with salvarsan.

Mr. J. B. LAWFORD read notes of a severe case of post-operative plastic iritis treated by neosalvarsan, the patient being a man aged 60, the subject of acute gout. The operation was extraction and iridectomy. There followed hazy cornea, ciliary injection, exudation, and the formation of a hypopyon. A mixed staphylococcus vaccine produced no visible effect. Nineteen days after the extraction 0·9 grm. of neosalvarsan was injected intravenously, and in two days there was definite improvement, while four days later the hypopyon was very small and the congestion was diminishing. The patient went home, but returned later, and the hypopyon had recurred. A similar dose of neosalvarsan was injected, and almost immediately the eye became brighter, and there was general marked improvement.

Mr. S. H. BROWNING, in answer to a number of questions, admitted that the blood count by which one could forecast the onset of sympathetic trouble was not infallible, but it was true in the great proportion of cases. The discovery of this particular blood count did not mean that the eye would be inevitably excised; efforts to save the eye would be persisted in as long as they were of any avail.

Mr. BASIL T. LANG pointed out that many of these cases of injury of the ciliary region occurred in children, and it should be remembered that the total number of leucocytes in the blood varied from the moment of birth until after puberty. Until the second or third year of age 80 per cent. of the blood cells present were of the lymphocyte type—i.e., large mononuclears, large lymphocytes, and small lymphocytes. Therefore, finding a child with such a blood count must not be taken to mean that it was on the eve of sympathetic ophthalmia. He believed salvarsan to be a very good tonic from his observation on cases.

[1] THE LANCET, Feb. 14th, 1914, p. 459.

SECTION OF PATHOLOGY.

The Pathological Changes of the Thyroid in Disease.—Channels of Spread in Bacterial Infection.—Changes in Malignant Tumours on Exposure to the Gamma Rays of Radium.

A MEETING of this section was held on Feb. 17th, Dr. F. W. ANDREWES, the President, being in the chair.

Mr. RUPERT FARRANT read a paper on the Pathological Changes of the Thyroid in Disease, a summarised version of which will be printed in THE LANCET later.

Dr. F. H. THIELE read a paper on the work carried out by Dr. D. Embleton and himself on the Channels of Spread in Bacterial Infection. The authors showed that the urethral mucous membrane was very permeable to bacteria and that the organisms reached the heart's blood and underwent general dissemination within two hours after painting them on the mucous membrane. The channel of spread was by way of peri-ureteral lymphatics to the capsular lymphatics of the kidney to the thoracic duct. It was shown that the covering of the glans penis was not so permeable to bacteria as the urethral mucous membrane. This rapid passage of bacteria to the heart's blood after absorption from the urethra might account for catheter fever. The vaginal mucous membrane is not permeable to bacteria. The conjunctiva was similarly found not to be permeable. It was shown that by feeding animals with bacteria infection could occur through the normal buccal mucous membrane, and that the channel of spread was by the lymphatics to the salivary glands, the lymphatic glands in connexion with them, and the cervical glands, the further spread depending upon the nature and virulence of the organism. The authors were unable to confirm the work of Calmette, Whitla, and Symmers. They found that the lungs did not act by any means as efficient filters, keeping back bacteria reaching them by way of the thoracic duct to the right heart, but that bacteria, once having reached the thoracic duct, underwent general dissemination in the body. Intestinal infection is relatively difficult. In ordinary feeding experiments alimentary infection appeared to occur chiefly through the buccal mucous membrane. Bacteria and particulate substances inoculated into any

of the serous cavities were entirely absorbed along the lymphatics, and in the case of the peritoneum, if the thoracic duct were opened the organisms were prevented from gaining access to the blood and organs. The absorption and passage along the lymphatic channels is extremely rapid, since organisms were demonstrated in the blood, within two minutes after intraperitoneal inoculation. It was also shown that diffusible substances were absorbed both by the lymphatics and blood channels; by the former more than the latter. In serous cavity infections spread also occurred along the lymphatic channels leading to the mediastinal glands, but this was relatively slight and unimportant. It was demonstrated that in addition to easy communication between the subarachnoid space and the venous sinuses there was a very free communication with the thoracic duct. Organisms appeared in the thoracic duct within five minutes after inoculation into the subarachnoid space. From the experiments it did not appear that there was any free circulation of cerebro-spinal fluid in the brain substance, since the inoculation of pigments, dyes, and bacteria into the cerebro-spinal fluid or intraventricularly was not followed by any spread into the brain substance along any of the perivascular subarachnoid sleeves. The experiments threw no light on the presence of an intracerebral lymphatic system, since pigment and bacteria inoculated in this way remained absolutely localised, and could not be demonstrated in the cerebro-spinal fluid, lymphatic channels, or tissues. It was also observed that bacteria and pigment could travel along the perineural lymphatics of the peripheral nerves, but the spread never occurred to the cerebro-spinal fluid or cord. Diffusible substances, however, travel along the axis cylinder fairly rapidly, and could be traced along the nerve roots. The authors concluded: 1. That bacterial spread is primarily by way of the lymphatics, the bacteria rapidly passing to the thoracic duct and blood stream and rapidly undergoing general dissemination. 2. That bacteria do not have specific sites of predilection peculiar to themselves. With every infection after bacteria have gained access to the thoracic duct a general dissemination occurs, and if looked for at the proper time the bacteria can be found in every tissue, the sites in which they can ultimately be found depending on the rate at which they are destroyed in that organ. 3. The lungs do not act as efficient filters. 4. Whenever bacteria occur in the blood they are excreted in the urine, and there is no need to suppose an increased permeability of the kidney for this purpose. 5. Bacteria cannot pass from the lymphatics into the urine. The capsular lymphatics of the kidney may be full of bacteria, but they only get into the urine after they have gained access to the blood. 6. Even when general bacterial dissemination occurs the serous cavities remain free from infection for a very long time.

Mr. A. CLIFFORD MORSON read a paper on the Changes which occur in Malignant Tumours on Exposure to the Gamma Rays of Radium. He found that the effects of these rays on malignant cells were two-fold—(*a*) rapid degeneration of the malignant cells in the immediate vicinity of the tube of radium; (*b*) apparent vacuolation and enlargement of nuclei in cells beyond the degeneration zone. He pointed out that considerable difficulty arose when an attempt was made to interpret the meaning of the changes, because Wedd and S. Russ had exposed mouse carcinoma to the beta rays, outside the body, for periods varying from one hour to 24 hours and failed to find any microscopic changes, unless the irradiated tumours were reinoculated. These observations suggested that the change produced in the cancer cell was a chemical one, and it was only when in contact with certain living constituents of the body that these degenerative changes could be brought about. He was of opinion that a knowledge of the degree of sensibility of different types of malignant cells on exposure to the gamma rays was the keystone to improvement of treatment of cancer with radium. As determined by the rapidity of onset of degeneration he had found that the cells of those tumours which by ordinary methods of histological diagnosis appear to be round-cell sarcoma are very sensitive to the action of radium. In the carcinomata there were remarkable differences in sensibility. He then made a few cautious remarks upon the question of changes in metastases. In the case of secondary deposits in lymphatic glands, though the material at his disposal had been limited to four cases, he had observed macroscopic and microscopic changes of a regressive type which called for further investigations. He considered it possible that the absorption of degenerated and degenerating cancer cells at the primary site due to exposure to the gamma rays might lead to the formation of some substance which would retard the growth of the malignant cell.

SECTION OF OTOLOGY.

Exhibition of Cases.

A MEETING of this section was held on Feb. 20th, under the presidency of Mr. RICHARD LAKE.

Mr. C. E. WEST related a prolonged and critical case of Chronic Suppurative Otitis Media in a child, aged 5, in whom five operations eventuated in recovery. There was a long history of discharge from both ears, then cessation, followed by renewal on the right side. There were, for the week preceding admission, headache, vomiting, and increasing drowsiness. There were no local signs over the mastoid or in the neck. The pulse was irregular, rate 68; temperature 97·8° F.; respirations 20; slight lateral nystagmus on deviation of eyes to the right. At the radical mastoid operation cholesteatoma and extradural suppuration were found; also a sinus leading to the interior of the cerebellum and 2 drachms of foul pus were evacuated. Cultures and films gave pure streptococci. On doing lumbar puncture the fluid was sterile; 650 cells per cmm., 93 per cent. lymphocytes. Eight days later the pulse fell to 62, and a second operation was needed, when a drachm of pus was removed. Owing to reaccumulation bone was removed from the outer side of the sinus, and a fresh collection of pus in the cerebellum was drained by a deeply inserted tube. The patient was much worse on the following day; pulse 60, respirations less than 10 per minute. Three weeks after the first operation Mr. West widely removed the tabular part of the occipital bone and underlying dura mater, and the region of the abscess was thoroughly exposed, the brain tissue being largely necrotic. There were weakness and wasting of the right limbs. Two months later the hernia cerebri was dealt with, a large flap of scalp and periosteum being slung downwards to cover the hernia, and the bared bone was grafted. Great shock followed, but it was recovered from after the use of pituitrin and intravenous saline. The health of the patient during the last 12 months had been satisfactory and the hernia had diminished and become firmer.—The case was discussed by Mr. F. F. MUECKE, Dr. F. H. WESTMACOTT, and Mr. SYDNEY R. SCOTT.

Dr. H. J. DAVIS showed a case which was affected with Herpes Zoster of the auricle. The case was sent as one of acute mastoid disease, owing to the great pain which preceded the eruption.

Mr. W. M. MOLLISON demonstrated by means of a section that infection could spread through a small vessel in the temporal bone and become generalised, the patient succumbing to this. Post-mortem examination revealed secondary abscesses in the lungs. He also showed a case of Tumour of the Left Cerebello-pontine Angle. There were nystagmus and defect of vision, especially in the left eye, which reacted only feebly to light. Papillœdema existed on both sides, particularly the left.

Dr. W. H. KELSON exhibited a man, aged 43, in whom Ménière's symptoms had been relieved for three months by the operation of uncapping the external semicircular canal.

MEDICAL SOCIETY OF LONDON.

Exhibition of Clinical Cases and Pathological Specimens.

A MEETING of this society was held on Feb. 23rd, Sir DAVID FERRIER, the President, being in the chair.

Dr. J. PORTER PARKINSON showed a case of Syphilitic Cirrhosis of the Liver. The patient was a woman who was first seen in 1909 with a history of abdominal swelling of four months' duration and bilious attacks. There had been no hæmatemesis or vomiting. At that time the liver and spleen were both enormously enlarged, reaching on each side well below the anterior superior iliac spines. There was no ascites. The white corpuscles numbered 4600 per cubic millimetre, the proportions of the varieties being normal. She had been readmitted a month ago for ascites. She was rather wasted,

with a browny yellow skin, but no conjunctival jaundice and no bile in the urine. The liver and spleen had shrunk considerably, and the former was distorted and converted into irregular masses in a manner strongly suggestive of syphilis. Twelve pints of ordinary ascitic fluid was drawn off in January, but it refilled, and about one month later 16 pints were removed. The blood count on Feb. 13th showed red corpuscles, 2,030,000; white cells, 3000; polynuclears, 68 per cent.; lymphocytes, 32 per cent. Some poikilocytes were present, but no nucleated reds were seen. No megaloblasts were present. The Wassermann reaction was at first negative, but as there was some doubt as to its accuracy it was again tried and was positive. There was no direct history of syphilis.

Dr. PARKINSON also showed a case of Patent Ductus Arteriosus. The patient was a girl, aged 6 years, with a history of phthisis on the father's side. She was admitted to hospital for slight bronchitis. She was a fairly well-grown child, not cyanotic, but slightly dyspnœic on exertion. The cardiac impulse was in the fifth space, 1½ inches outside the nipple line, slightly heaving in character. The right limit of the deep cardiac dulness was 1 inch to the right of the sternum; the upper limit reached to the upper border of the second rib cartilage (Gerhardt's area of dulness). There was a systolic thrill in the second left intercostal space, and a loud murmur extending over nearly the whole of the cardiac cycle, best heard in the second left intercostal space, but heard over the whole cardiac area, not well conducted to the back. The pulmonary second sound was loud and often reduplicated. The other viscera appeared to be normal, and there was no other malformation. A radiogram showed the enlargement of the heart and the shadow due to the pulmonary artery.

Dr. C. E. LAKIN showed the organs from a case of Hæmochromatosis with Primary Carcinoma of the Liver. The patient was under the care of Dr. W. Essex Wynter, to whom Dr. Lakin was indebted for permission to show the specimens. He was a male, aged 68. For three months before admission he complained of indigestion, and for the last month of shortness of breath, enlargement of the abdomen, pain in the right leg, loss of weight, and vomiting of blood. Post mortem, there was slight bile staining of the conjunctivæ, but no jaundice of the skin. An enlarged gland (Virchow's) was found in the left supraclavicular fossa. Slight pigmentation of the skin of the legs was present. The aorta was atheromatous. There was a slight degree of mitral stenosis. The heart muscle was dark brown in colour. The lymphatic glands in all the regions examined were of an intense brown colour, and secondary deposits where they were present in the glands contrasted markedly with the brown gland substance. Microscopically while the glands showed well-marked Prussian blue reaction the new growth, which was a spheroidal-celled carcinoma, appeared to be entirely devoid of iron granules. The pancreas was salmon brown in colour. The liver showed the characteristic brown tint and gave a well-marked Prussian blue reaction. The spleen showed perisplenitis. Microscopically these organs showed quantities of hæmosiderin but little evidence of fibrosis, which might account for the absence of sugar in the urine. The percentages of iron estimated by Dr. Kellas for the different organs were: liver, 2·47 per cent.; pancreas, 0·46 per cent.; and lymph glands, 7·32 per cent.

Dr. EDMUND CAUTLEY and Mr. N. BISHOP HARMAN showed a specimen of Syphiloma of the Heart. According to the father the patient lost her mother from "cancer of the heart." There was no history of congenital or acquired syphilis. The girl had had excellent health, except for chorea in childhood and occasional sore throats. At the beginning of May, 1912, she developed keratitis profunda in the left eye. There was ciliary injection and a streak of fine precipitates on the back of the cornea. The iris was normal. No vitreous opacities or choroiditis could be found. The vision was 6/12, not improved by glasses. The right eye was normal, with vision 6/6. The girl was carefully examined for some septic focus, but none was found, and all the organs except the eye were apparently normal. The teeth were of good shape and condition. Under atropine ointment and boric acid fomentations she recovered completely in about a month. The girl continued her duties, and never suffered from shortness of breath or signs of ill-health until November, when she was found dead. The heart weighed 17 ounces. The wall of the right ventricle and the interventricular septum were extensively infiltrated with hard, fibrous new tissue, somewhat nodular. Dr. Stanley Wyard reported that the microscopical appearances were those of gumma. The case was unusual by reason of the patient's age, the complete absence of symptoms, and the limitation of the disease to the cardiac muscle.

Dr. W. H. WILLCOX showed a case of Tumour in the region of the Sella Turcica. The patient was a married woman with several children. There had been no miscarriages. Menopause occurred at the age of 39. She was in good health until March, 1913, then complaining of attacks of violent abdominal pain. Her medical attendant told her she was jaundiced. She was treated for gall-stones and suffered from abdominal pain on and off, this symptom gradually becoming more severe. On July 23rd the patient became much worse and vomited continually. There was some diarrhœa. She complained first on that day of being unable to see properly and was drowsy and disinclined to talk. On July 24th there was no vomiting, but the patient was no better. On July 25th she complained of severe frontal pain, and on July 26th became delirious. She still recognised her parents, but her sight was very much impaired. She was admitted to St. Mary's Hospital on the evening of July 26th, 1913. On admission she was completely comatose, with stertorous breathing and some cyanosis. The temperature was 102 5° F., pulse 100, and respirations 24. There was incontinence of urine. Ptosis of the right eyelid and some facial weakness on the right side were present. The pupils were unequal, the left being larger than the right. Both pupils reacted to light. The knee-jerks were absent. There was an extensor plantar reflex present on each side. The tongue was furred and the breath foul. The heart and lungs were normal. The abdomen was distended. The liver and spleen were normal. Retention of urine occurred later and the urine had to be regularly drawn off by a catheter. The urine was acid, its specific gravity 1026. Urea 3·9 per cent. A faint trace of albumin was present. No acetone or diacetic acid was present. The patient remained comatose until July 30th. On this day she was able to speak and complained of being unable to see. The eyes were examined, but no optic neuritis was observed, the discs being pale and the vessels small. Ptosis of the right eyelid was very marked. On July 31st she was more conscious, and the ptosis of the right eye was less marked. There was definite weakness of the right arm, and also of the right side of the face. There was complete ophthalmoplegia of the right eye, and she could not see at all with either eye. Some impairment of outward and upward movements of the left eye was present. The temperature became normal on August 3rd. The patient remained in an abnormal mental state, and on August 14th she had delusions that her husband and children were present and that someone was trying to poison her. On August 18th her mental condition became normal. The ptosis gradually cleared up and the right eye gradually recovered its movements. On August 11th she was able to see slightly, but could not recognise objects. The weakness of the right arm and face cleared up. She left hospital on Sept. 23rd. She was able to recognise hand movements, but vision was very indistinct. The ocular movements were normal except that there was some deficiency of outward movement of the right eye. The ptosis of the right eye had gone and the mental condition was normal. A Wassermann test gave a positive result on July 30th. She was treated with inunction of mercurial ointment and subcutaneous injections of soziodol of mercury. Iodide of potassium was given by the mouth. She developed some stomatitis on August 10th, and the mercury was stopped for a few days. She attended the out-patient department of St. Mary's Hospital on Jan. 1st, 1914, and then had Argyll Robertson pupils and well-marked bitemporal hemianopia. Her ocular movements were normal. Her general condition of health was good. An X ray photograph by Dr. G. Harrison Orton showed marked enlargement of the sella turcica. Mercury and iodide had been continued during the past four months. She had on Jan. 28th a fresh attack of abdominal pain lasting two days.

Dr. W. ESSEX WYNTER showed a case of Femoral Drainage for Ascites in Advanced Cirrhosis. The patient, a woman, was admitted in September, 1912, with ascites. The

abdomen was very tense and there was much respiratory distress. Paracentesis was performed on Sept. 16th, 9 pints of serum being removed. By Oct. 17th the abdomen was again tense and an attempt was made, by placing a decalcified bone tube in the peritoneal cavity, to drain into the subcutaneous tissue of the lower thoracic region. Suppuration occurred in the integument and the bone tube was discharged, but the fluid remained in abeyance till Dec. 17th. There was then a rapid accumulation and on Jan. 5th, 1913, 11 pints were removed by tapping. She was discharged on Jan. 8th. She was readmitted on Jan. 22nd, and being very tense was tapped at once, but not satisfactorily. On Jan. 24th the femoral ring was opened with the aid of a cannula and probe passed through the abdominal wall above, a decalcified bone tube was inserted, and the wound closely sutured, about five pints of fluid escaping. During convalescence there was some œdema about the wound and a few drops of sanious fluid escaped, but the abdomen became smaller, and the patient recovered her strength. By Feb. 2nd she was convalescent except for a continued temperature of 100° F., due to some tuberculous trouble at the right apex, and dry pleurisy over the left front. She was discharged on March 22nd and there had been no occasion to tap the abdomen since. The higher operation was undertaken as a compromise, as at first the patient appeared too ill to stand the more complete femoral incision or repeated tapping. Incidentally, it afforded an opportunity for ocular demonstration of the cirrhotic liver. Sufficient improvement in the general condition followed to permit of the more radical operation, and the ultimate result had been quite satisfactory in spite of the advanced stage of cirrhosis evident in the observed state of the liver and the obvious aspect. Ascites was present, but the need for repeated tapping was obviated.

Dr. R. A. YOUNG showed a case of Acquired Double Mitral Disease in a Transposed Heart. The patient was a girl aged 10 years and 10 months. She had suffered from rheumatic fever three years ago followed by chorea, and came under observation for a cough of ten weeks' duration and headache. The cardiac impulse was in the right axilla, and cardiac dulness to the right of sternum. A sharp first sound and systolic murmur were audible at the situation of the impulse. X rays confirmed the diagnosis, and aided by a bismuth bolus showed that the stomach was on the right side.

Dr. E. A. COCKAYNE showed a specimen of Rheumatic Nodules on the Heart.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Exhibition of Clinical Cases.

A MEETING of this society was held in the board room of the Great Northern Central Hospital on Feb. 12th, Dr. T. WILSON PARRY, the President, being in the chair.

Dr. ALEXANDER MORISON showed a girl, 11 years of age, who had had Epilepsy since she was 2 years old. The attacks were at times of very frequent occurrence, as many as 38 occurring in 24 hours. While under his care they were characterised by clonic convulsions affecting the right half of the body. At a former period (1909) they were stated to have affected the left side. Finding the bromides ineffectual in arresting the attacks, Dr. Morison used hypodermic injections of sulphate of atropine (1/200 gr.) three times a day with immediate diminution of the frequency of the attacks and in a few days in their disappearance, when the atropine was administered by the mouth ultimately in doses of 1/100 gr. twice a day. With the abandonment of the drug there was a tendency to recurrence of the attacks and at its resumption they disappeared for lengthened periods, only supervening occasionally as a single attack. While recognising this clinical fact that there are spontaneous periods of cessation of attacks in epilepsy, Dr. Morison felt inclined to regard atropine as having had a beneficial effect in this case and as affording some support to the vaso-motor theory of the origin of the attacks, at any rate in some cases of epilepsy.

Dr. E. BELLINGHAM SMITH showed two cases of Aphasia. The first was a case of Jacksonian Epilepsy—Right Hemianopia and Word Blindness. The patient was a man who had contracted syphilis 28 years ago, and was now being treated for convulsive movements affecting the right side of the face and right arm, and also for difficulty in reading. The illness commenced in February, 1912, with an attack in which the patient suffered from sudden loss of sight in the right eye and loss of speech and numbness in the right arm. Since that date the patient had had attacks, recurring every two or three weeks, of convulsive movements of the right side of the face and right arm; these attacks were preceded by a "burning sensation" in the right eye, and were not associated with any loss of consciousness. He complained that his sight was very imperfect in his right eye, and that to obtain a clear view of objects he must turn his head to the right. In addition he had difficulty in reading. He said that he could see the print, but had difficulty in understanding what he read. On examination it was found that he recognised and named objects correctly, that he read very slowly and aloud, spelling each letter deliberntely; he could then enunciate short words but stumbled over or completely fell at long ones. The difficulty with some letters was greater than with others. He wrote from dictation and copied quite well though slowly. When writing from dictation he repeated the words to himself. If, however, he was shown what he had written he again had difficulty in reading it. Except for a considerable degree of contraction of his right field of vision he was free from any other evidence of nervous disease. These symptoms suggested that this man was suffering from a gummatous meningitis, giving rise to epileptiform convulsions of the Jacksonian type, while the hemianopia and word-blindness without agraphia could be explained on the assumption that he had some syphilitic obliteration of the vessels supplying the general visual centre in the occipital lobe and the region of the association fibres connecting the general visual centre with the word-memory centre and the angular gyrus.—Dr. HARRY CAMPBELL was inclined to accept Dr. Bellingham Smith's explanation of the case—namely, that the visual and aphasic phenomena were due to softening from endarteritis, and that the minor Jacksonian attacks were caused by a localised meningitis or actual gumma. He held that all cases of cerebral syphilis should be treated without delay by the intravenous administration of salvarsan, in conjunction with mercury. If this failed recourse should be had to the intrathecal injection of salvarsanised serum. He incidentally referred to the good results he had obtained from this method of treatment in tabes. He urged that in prescribing potassium iodide for syphilis of the central nervous system not less than drachm doses, three or four times a day, should be ordered.

Dr. BELLINGHAM SMITH'S second case was one of Motor Aphasia and Partial Hemiplegia. The patient was a female aged 24. Nine weeks ago she was confined. The confinement was attended by a considerable loss of blood, which left the patient, in her own words, "very weak and breathless." Three weeks after the birth, while the patient was sitting at dinner, she felt a sudden numb feeling in the right arm and found that both her right arm and the right side of her face were paralysed. On attempting to speak she was unable to utter a sound. Complete aphasia lasted for three days; since then her speech had been slowly and steadily recovering *pari passu* with her paralysis of arm and face. On examination it will be noticed that there is a slight weakness of the right side of the face, which is more marked on smiling. The movements of the right arm appear normal, but the finer movements of the fingers, as required for threading a needle or writing, are still very deficient. As regards her speech, she hears well and understands what is said to her; she can also read readily and understands what she reads. She, however, says that when she wants to speak or reply "she knows what she wants to say but can't get it out without hesitating, stammering, clipping her words, or even occasionally using an entirely wrong expression." She can write so far as her paralysis admits, but is incapable of counting money. In this instance the inability to count, the difficulty in expressing herself, and the use of wrong words, associated with her previous history of loss of blood and resulting anæmia, suggest that this patient is suffering from some cerebral thrombosis which has temporarily disorganised her motor areas subserving the movements of face and hand and also the kinæsthetic memory centre, which controls intelligible speech.

Dr. H. L. TIDY showed a case of Tuberculide of the Hands combined with Bazin's Disease. The patient was a girl

aged 20. Eighteen months ago she noticed swellings on her hands, which have persisted with little change. Her hands ache on exertion, but there is no definite pain. Occasionally a nodule will rupture and discharge slightly. About three months ago she noticed a few lumps under the skin above the right ankle, several of which have formed ulcers. On both hands are numerous cutaneous nodules, about the size of a sixpence, of bluish tint and very slightly indurated. The circulation is good. On the right calf are several ulcers of the same size with blue peripheries, and subcutaneous nodules can be felt. On the left calf are a few subcutaneous nodules. In both posterior triangles of the neck are numerous small discrete glands. Otherwise there is nothing abnormal to be found.

Mr. GORDON TAYLOR showed a case of Osteitis Deformans in a man aged 56. The patient had sustained a fracture of the right femur in the middle of its shaft, and the application of splints and extension not proving successful in keeping the ends in apposition the bone was plated by Mr. T. H. Kellock. This took place in May, 1913. Two months later it was noticed that he was suffering from osteitis deformans, both femora and tibiæ being bowed; the upper part of the spine also was seen to be fixed in a bowed position. The clavicles were enlarged and the bones of the upper extremity were also slightly curved. None of the bones of the head were affected.—The PRESIDENT mentioned that he had had an extremely interesting case of the same nature under his care some years ago. A lady of 63, whom he had known some years before the onset of the disease, was the subject. The disease, from start to finish, lasted four and a half years. It started after an operation for appendicitis, this being her second attack. The first attack occurred six months previously, and the nurse who attended her on both occasions noticed nothing abnormal with her bones. After the operation she complained of rheumatic pains in her legs and thighs, and it was noticed from time to time that she was getting shorter in stature. About four years later the President was called urgently to see her and she had actually fractured her left femur while in the act of stooping to put out a gas-ring. The bone was carefully set and the fragments kept in apposition for six weeks all but two days. She died at this time, and on examining the condition of the seat of fracture after death it was found that no perfect union had taken place. Of the bones of the head none but the point of the chin was enlarged. The President added that Osler mentioned in his text-book that "of 8 cases traced to the end, 5 died with cancer or sarcoma."—Mr. CECIL ROWNTREE said that he had not heard that cases of osteitis deformans were liable to cancer, but he could recall one in which cancer of the tongue occurred. What he had particularly noticed in this case was the very high arterial tension and arterio-sclerosis that existed.—Mr. TAYLOR said that arterio-sclerosis was not present in his case.

Dr. C. M. HINDS HOWELL showed a case of Paraplegia in a woman aged 60. The patient was well till nine months ago, when she complained of pains in the legs and back and weakness of the left leg. Since the onset of symptoms the pains had ceased, but there had been progressive loss of power in the legs combined with loss of sensation. The patient now was unable to stand alone and presented all the signs of spastic paraplegia. She also showed the Brown-Séquard type of paralysis, muscular power being most affected in the left leg, whilst the sensory loss was most noticeable in the right leg. The upper limit of sensory loss pointed to a focal lesion chiefly on the left side of the cord at the fourth thoracic segment. Its nature was almost certainly a tumour. Considering the patient's age Dr. Hinds Howell did not think that he could advise operation unless the patient was very anxious to have it done.

Mr. C. SHATTOCK showed a woman, aged 62 (under the care of Mr. C. C. Choyce), with a Tumour in the Left Groin, noticed for three months, having caused discomfort in walking but no actual pain. There was an elastic mass in the upper part of Scarpa's triangle, free from tenderness, not fixed to skin or bone, and lying behind and to the outer side of the femoral vessels, which were pushed forwards and not involved in the mass. Examination of the hip-joint, spine, bones, and pelvis was negative. The mass was considered to be probably a lipoma.—Mr. TAYLOR thought the diagnosis lay between a lipoma and a fibrous tumour.—Mr. ROWNTREE was in favour of its being a cyst.

Mr. SHATTOCK also showed a man (under the care of Mr. Arthur Edmunds) exhibiting an Aneurysm of the Upper Part of the Radial Artery. There was no history of trauma, but the patient had a positive Wassermann reaction. The swelling had been noticed for three weeks, and was steadily enlarging.—Dr. CAMPBELL remarked that arterial aneurysm did not occur so long as the media remained intact. He drew attention to a function of the muscular elements in the arteries and veins which had been entirely overlooked in this country—i.e., to prevent by their tonic contraction the vessels from undergoing a progressive yielding before the intra-vascular pressure. Tonically contracted muscle fibre offered a resistance *sui generis* to a stretching force. Were the vessels divested of their muscular (and elastic) elements they would speedily become aneurysmal. From this point of view the veins stood as much in need of muscular tissue as the arteries;[1] those of the lower extremities were rich in muscle on account of the hydrostatic pressure which they had to sustain; the jugular veins contained but little muscle; while the intraocular, intracranial, and interosseous veins were wholly devoid of it, because in their case the intravenous pressure never exceeded the pressure outside. The influence of a tonically contracted media in preventing a yielding of the vessel wall was well shown in the case of the temporal artery. Chronic hypotonus of this vessel led to a yielding of it in the transverse and longitudinal directions; this was the explanation of the dilated and tortuous temporals which were quite frequently present in subjects of low blood pressure.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Fibromyoma.—Laceration of the Perineum and its Operative Treatment.

A MEETING of this section was held on Feb. 6th, Sir WILLIAM J. SMYLY being in the chair.

Sir WILLIAM SMYLY showed a specimen of Fibromyoma removed from a girl aged 21 on whom he had been asked to do an ovariotomy. He did not see the patient until the time of the operation on Jan. 27th, but he did not think he could have made a correct diagnosis even had she come under his observation sooner. When the abdomen was being prepared he felt something like a soft flaccid cyst. On opening the abdomen the uterus and ovaries were found to be healthy. On the right side was the tumour, which was shelled out of the broad ligament. Although it was cyst-like in appearance, on a knife being inserted nothing came out. The tumour was entirely intra-ligamentous except a very small part embedded in the right wall of the uterus. He had never seen such a large myoma in a girl at such an early age. Pathological examination showed the specimen to be a myoma.

Dr. G. FITZGIBBON described a specimen of myoma which he had recently removed from a patient aged 29. The tumour felt cystic, and on its removal proved to be so. He had considerable doubt at first as to whether it might not be a pregnancy, but after three weeks' observation it was decided to operate. At the operation he felt that there was considerable risk in not removing the whole uterus. One of the difficulties in these cases was the diagnosis, but a greater difficulty was to decide whether the tumour was sarcomatous or a fibroma. He suggested that a second operation would meet the case if the tumour turned out to be a sarcoma, and therefore one should do a myomectomy first.

Dr. E. HASTINGS TWEEDY, in a paper on Laceration of the Perineum and its Operative Treatment, said that in the majority of tears the levator fibres were not severed, but were torn from their attachments to the mid-line of the perineum. This dragging away preceded rupture of the skin and other superficial structures, so that vigorous efforts to support the perineum were often conducted at a time long after its important elements had been torn away. The method of mass suturing with the patient lying on her side could be made an ideal operation. The lowest morbidity percentage rate was seen in the practice of those who conducted obstetrics with least surgical interference, and

[1] THE LANCET, Feb. 26th, 1910, p. 590.

this truth applied to hospital as well as to private practice. The search for vaginal rents as a routine of treatment increased morbidity. The obstetrician should learn to rely upon himself rather than on his assistants. A slight modification of Lawson Tait's perineorrhaphy was all that was required to bring about perfect adaptation of the levator and other muscles in secondary repair of the perineum.—Dr. FITZGIBBON agreed with the view that it was of importance to lift the tongue of mucous membrane towards the vagina and away from the anus. It was his practice to suture the perineum while the patient was in the lateral position and before the placenta came away, as at that time the anæsthesia was generally sufficiently deep to permit of doing so. An approximation could be made just as well in the lateral position as any other, provided that it did not extend very far into the vagina. In right side tears the dorsal position was necessary for full exposure of the tear. For the majority of tears the lateral position afforded quite a satisfactory view and enabled them to be repaired efficiently. He preferred silkworm gut because it was an advantage to have sutures which would not absorb lochia and carry them into the wound.—Dr. H. JELLETT did not consider that the extent or importance of tears extending up the posterior vaginal wall could be appreciated unless the patient was in such a position that this wall could be clearly seen. Repairing by sutures passed from the perineum alone with the patient in the lateral position had a tendency to leave a tear of the posterior vaginal wall unstitched, so leaving a pouch communicating with the vagina. Even if the perineum suture entered the levator ani muscle, it might very easily miss such part of the vaginal tear as lay above the muscle. The dorsal position was the most suitable for almost every part of obstetrical work, including normal labour: the tendency was towards this practice on the continent and in America. He showed drawings of an operation to illustrate the repair of chronic lacerations of the perineum, and called particular attention to the necessity for suturing the levator ani muscle separately. He had been performing this operation for the last six or seven years, and had quite abandoned the old Lawson Tait operation.—Dr. B. A. H. SOLOMONS thought it necessary that the best way for sewing the ruptured perineum after birth should be determined conclusively so that patients might be left as well before their confinements as afterwards. With regard to the question as to position he always adopted the lateral, except where the vagina was torn very high up and required catgut sutures. He looked with disfavour on catgut in ordinary tears of the perineum and always used silkworm gut.—Dr. D. G. MADILL, referring to the classification of tears, suggested grouping them as—slight tears, large tears, and complete tears. The first healed uniformly, but he found the large tears did not heal up in many cases. He considered that there were objections to suturing lacerations in the second stage which more than counterbalanced the advantages. It was better to wait till the placenta was away before suturing.—Dr. V. J. MCALLISTER considered that in those procedures where the muscles of the pelvic floor were exposed in the process of repair the muscle fibres first met with were not portions of the levator ani, but the remains of the transversus perinei profundus muscles. To display the levator ani muscle satisfactorily one must either retract, or in some cases temporarily divide and reflect the transversus perinei profundus. The levator ani fibres on each side thus exposed he brought together in the middle line in front of the rectum, after which he dealt with the transversus perinei profundus muscles in the same way, uniting them in the middle line superficial to the repaired levator ani muscle.—Sir WILLIAM SMYLY said he regarded the division into three degrees of laceration as of practical importance; the great majority of tears were slight, but there were bad cases in which the muscles were torn, and, as Dr. Tweedy had pointed out, tears through the sphincter muscle formed a distinct group. He preferred operating with the patient in the dorsal position, because, among other reasons, both hands were free, whereas in the lateral the left had to act as a speculum.—Dr. TWEEDY, in reply, said he recognised that the muscles held sutures very badly, and could very easily be cut through, and for this reason he described the operation which took in everything right up to the ischio-rectal fossa; the most elaborate dissection would not enable more tissue to be taken in. In the fresh tear and the old tear the anatomical conditions were precisely similar. He advocated the use of a needle sufficiently long and curved to take in enough fibrous sheath, as it would hold better than muscle. He held that inquisitive midwifery could not be practised without increasing the morbidity rate. He always pinned his faith to the mass suture. The old Lawson Tait operation fell into disuse because it did not bring in the muscles, but the modified form of operation with the curved needle worked admirably.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held in the Medical Institute, Belfast, on Feb. 12th, Mr. A. B. Mitchell, the President, being in the chair.—Dr. W. Calwell read a paper on Some Less-known Points in Pleural Effusion, which was illustrated by lantern slides. He dealt with the forces within the thorax, first as regarded one lung, and then as regarded the interaction of the lungs upon the mediastinum. A clinical proof was given that fluid did not descend into the complementary pleural sinus in the early stages of effusion, as the pressure was positive as that of the abdomen, not negative as in the lung. A full description of the fissures of the lungs was given, and the importance of the accurate knowledge of their anatomy in cases of interlobar empyemata was insisted on. The possibility of an interlobar serous effusion remaining loculated, as a cause of some of the obscure lung cases, with aberrant signs and ending in recovery, was suggested and its study urged.—Mr. Andrew Fullerton read a paper on the Surgery of the Gall-bladder and Bile Ducts, illustrated by 30 cases without a death. He divided his cases into the following groups. Those in which the gall-bladder was simply drained (15 cases) for calculus, cholecystitis, or chronic pancreatitis. In 11 cases the gall-bladder was removed as a primary operation and in 2 cases as a secondary operation eight and two years respectively after the primary one of simple drainage. Recurrence of symptoms was the cause necessitating the secondary operation. In 4 cases the common duct was incised for the removal of calculi from it or the hepatic duct. In 3 of these the duct was drained and in 1 immediate suture of the incision was carried out. In 1 case transduodenal choledochotomy was done for a small stone impacted in the ampulla of Vater. In 1 case the dilated common duct, which could not be emptied through the cystic duct, was anastomosed to the duodenum. This was a case of chronic pancreatitis in which apparently complete obstruction of the common duct was present. The anastomosis was carried out with the help of a small Murphy's button. The patient lived for a year after the operation. The cause of his death was not known to Mr. Fullerton. In 1 case a large subphrenic abscess appeared shortly after cholecystectomy. This was successfully treated by removal of a portion of rib and suture of the diaphragm to the parietal pleura before incision of the abscess. In 2 cases subhepatic abscesses occurred after perforation of the gall-bladder by calculi. In one of these simple drainage was carried out, and in the other the gall-bladder with the calculi was removed. Chronic pancreatitis was present in a marked degree in 5 cases in the series. It was remarkable after operation how rapidly the patients put on flesh. This would seem to signify that the pancreas possessed considerable reparative powers. Mr. Fullerton said that though he had not to record any deaths in this series, he had been favoured with more than the usual amount of luck in several. He could not, of course, count on a continuance of such a mortality rate.—Dr. J. C. Rankin read a paper on the Problem of Tuberculosis as Illustrated by Lupus. An analysis of 100 consecutive cases of lupus coming under Dr. Rankin's treatment showed an incidence as follows: 38 on the nose, 35 on the body, 62 on the cheek, while 35 patients had more than one lesion. Of those starting in the nose practically all had intranasal disease. Eye symptoms were common, usually dacryocystitis. These conditions ante-dated the appearance of the external lupus, often by years, so that taking as evidence of the same diseased process, lacrymation from stoppage of duct, the history of recurring treatment for the eyes, and the difficulty of breathing through the nose, in almost every incidence they were, Dr. Rankin said, brought to a period before puberty. Those cases starting on the body were remarkable for their similarity. Of 12 cases occurring on the hip they all formed circles or segments of circles about a common central point; 17 cases occurring on the wrist showed a point of origin at the back

of the joint. The other cases were situated about the other joints. The cases on the cheek started obviously from a submaxillary lymphatic gland and spread in a circle with the main line of advance to the inner canthus of the eye.—In an interesting discussion which took place after the reading of the above communications the following took part:—Dr. J. Campbell, Dr. T. Houston, Dr. R. Campbell, Dr. G. A. Hicks, Dr. C. G. Lowry, Dr. H. Stevenson, Dr. S. T. Irwin, Dr. Calwell, and the President.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 20th, Dr. David Ross, the President, being in the chair.—Dr. A. Feiling showed three men the subjects of Tabes Dorsalis without the loss of the knee-jerks. The first had had an ulcer on the sole for six months which was now healing. He had had shooting pains for 12 months and some difficulty in micturition; the pupils were unequal and the Argyll-Robertson sign present; slight ataxia and Rombergism were present. There was no known syphilis. In the second case there was inability to retain and void urine normally. The pupils were dilated and sluggish in response to light; there was some analgesia of the arms; the ankle-jerks were absent. There was no known syphilis; Wassermann blood reaction was negative, the spinal fluid positive. Two intravenous injections of neosalvarsan were given without noticeable benefit. In the third case there were pupillary signs without ataxia but with diminished sense of muscle pain in the legs.—Mr. R. C. Elmslie showed: 1. A boy, aged 10 years, whose humerus broke three and a half years ago, through a fall, but at the site of a cyst in the shaft. The fracture healed. The cyst was scraped, but the cavity was not bone filled and seemed to be extending downward. Further measures were proposed to exclude the cyst cavity. 2. A boy, aged 11, with Scoliosis treated by forcible over-correction of the spinal curve by Abbott's method.—Mr. H. J. Curtis showed a woman, aged 54, with a Sarcoma over the Occiput which had perforated the skull. She had also a sarcoma on a rib and advanced mediastinal growth. The skull growth seemed to have been periosteal.—Mr. W. C. G. Ashdowne showed a boy, aged 9 years, who, falling from a van, broke a rib four months ago. Now he stands with body bent forward, thighs semiflexed, and head drooped grizzling. He was placed on a couch and by engaging his attention the flexed thighs were easily placed flat and the spine straight without pain.—Discussion followed as to the diagnosis, opinions varying between fibrosis, sacro-iliac disease, and a functional state.—Dr. P. Hamill showed a woman, aged 62, the subject of Progressive Muscular Atrophy of the Upper Limbs for three and a half years. Fibrillary tremors of the triceps and deltoid were very plain, as was wasting of the thenar and hypothenar eminences.—Mr. P. Maynard Heath showed: (1) A woman with a Primary Chancre of the lower lip; (2) a baby, aged three weeks, with a Hæmatoma over the right parietal and another one over the occipital bone; (3) a woman, aged 29, whose Rib had been Resected and Beck's bismuth paste injected for empyema successfully; and (4) a boy with Birth Palsy of the right arm whose supraspinatus had been beneficially divided.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Feb. 13th, Dr. A. K. Chalmers, the President, being in the chair.—Dr. William Hanna read a paper on the Use of Refrigeration in the Preservation of Foods. After referring to the fact that the United States was not only no longer sending cattle to this country, but was taking for its own supply cattle from countries which had hitherto previously exported almost exclusively to Great Britain, he said that the methods of refrigeration of foodstuffs depended chiefly on the scientific fact that expanding air or vaporising substances, such as sulphurous acid, carbonic acid, or ammonia, in assuming the gaseous form abstracted heat from the atmosphere or other bodies in the neighbourhood. Fresh meat was brought from distant countries either as hard frozen meat or as chilled meat. Chilled meat arrived in a condition ready for consumption and retained the characteristics of fresh meat more closely than frozen meat, but the chilling process required great care and the transport needed constant supervision. The frozen method was the better one as regarded preservation, although it sometimes damaged the cellular and fibrous structure of the meat unless special care was taken in defrosting. Although it had been sometimes said that frozen meat when thawed out more readily decomposed, yet experience showed that it would keep with proper care as well as freshly killed meat after being taken from the refrigerator even in high temperature. Referring to the conditions of unsoundness which were found as the result of inspections made under the foreign meat and unsound food regulations, Dr. Hanna stated that, owing to the very good inspection carried out at the present time in nearly all the exporting countries, the proportion of diseased meat arriving in this country was very small. Tuberculosis was found in animals from nearly all exporting countries, but as a rule the lesions were such that in many cases they might be overlooked with the best inspection. Out of 59,000 carcasses of pigs imported during three years into Liverpool from China only 541 were found to be affected with tuberculosis after a very complete examination of every carcass. Through some fault in the process of refrigeration moulds were frequently found on refrigerated meat, poultry, game, or fruit. If the mould were present in only small amount it would suffice to remove the superficial part of the meat or substance affected, but if it had reached a large amount it would be necessary to take into consideration the possibility of decomposition in the underlying flesh associated with bacteria. Dr. Hanna considered that refrigeration afforded a ready means of obtaining a plentiful and cheap supply of food, and he thought that every means was now being taken to obtain and keep this supply wholesome by the constant attention of the producer abroad to the methods of inspection and handling and by its thorough examination on landing in this country.—Dr. A. W. J. MacFadden referred to the possible desirability of limiting the time during which cold storage should take place. In the United States regulations with respect to this had been made, but in this country it was probable that storage was not prolonged beyond the period when it would be undesirable to continue it.—Sir Shirley Murphy spoke of the effect of cold storage on the flavour of meat, and thought that the process might even improve the flavour.—Dr. R. Dudfield considered that the time had come when the use of preservatives in milk and cream should be stopped and refrigerating processes should take their place.

UNITED SERVICES MEDICAL SOCIETY.—At a meeting of this society held at the Royal Army Medical College, Grosvenor-road, S.W., on Feb. 12th, Colonel S. Westcott, C.M.G., A.M.S., read a paper on the Siege of Ladysmith. After giving a general sketch of the military arrangements for the defence of the town, Colonel Westcott said he was first placed in medical charge of the convent, which had been equipped for the treatment of the wounded, and described some of the most interesting cases that came under his care while at the convent. Later, as a consequence of the removal of the sick and wounded together with the sick women and children to the neutral camp at Intombi, the medical arrangements were modified, and he was appointed secretary to the principal medical officer of this camp. Colonel Westcott described the arrangements made for treating the sick and wounded at Intombi, and the difficulty of the task owing chiefly to want of sufficient *personnel*. On Nov. 11th the first two cases of enteric fever arrived, heralding an outbreak that eventually totalled up to 2250; when one added to this 2000 cases of dysentery, not to mention the wounded and other cases of illness, the difficulty of caring for these with a medical establishment of 22 officers, 32 nursing sisters, 38 non-commissioned officers, and 305 orderlies, of which only 69 were trained men, could be appreciated. In addition there was a large staff of Indian and Kaffir labourers whose duties were scavenging, refuse removal, laundry work, and grave-digging, &c., and these needed constant supervision. At the commencement of the siege a long investment was not anticipated, and the food-supply was thought to be sufficient; with the delay in the arrival of the expected relief and the reverses to Buller's force, the rations were gradually cut down, until on Jan. 28th the ordinary ration was 1 lb. of bread made from wheat or maize, 1 lb. of horse or mule meat, ½ oz. tea, 1½ oz. sugar; vinegar was used as an antiscorbutic instead of lime juice, and there was no milk except for the sick. Colonel Westcott described the various rations that were used for the sick. Of drugs there was plenty. He discussed the mode of development of the outbreak of enteric fever and the causes that led to its continuation. The speaker noted that penetrating abdominal wounds were not nearly as fatal as

one would have expected, and read notes of cases of these injuries. Colonel Westcott concluded his most interesting paper with a word of tribute to the high qualities of the late General Sir George White and Colonel, now Sir Edward Ward, Bart.

CARDIFF MEDICAL SOCIETY.—A meeting of this society was held on Feb. 10th. The following cases and specimens were shown:—Dr. E. J. Maclean: An Ectopic Gestation from the right side. A corresponding condition had occurred in the same patient on the left side a few years before.—Mr. William Sheen: A patient who had had Hemithyroidectomy performed eight days before. The transverse scar was in the fold of the neck, and was already quite inconspicuous.—Mr. J. W. Geary Grant: A child with Syndactyly on both hands. There was separation of the proximal portions of the digits, but clubbing and adhesion of the terminal parts. No other members of the family had any developmental errors.—Mr. Sheen made a communication on Bullet Wounds, referring particularly to those occurring in civil practice. He described the various weapons and projectiles used, from the toy pistol to the latest military weapons, and including a description of sporting guns and cartridges. He also showed a number of cartridges from the Bulgarian war. After indicating the various factors which determined the amount of damage, Mr. Sheen went on to describe and illustrate the best methods of localising and removing bullets lodged in the tissues. He showed the telephone probe, including a modification which he had devised, where the same pair of forceps detected and extracted the bullet. Finally, he briefly described a number of illustrative cases.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at St. John's Hospital, Leicester-square, on Feb. 17th, Dr. Morgan Dockrell being in the chair.—Dr. J. L. Bunch showed a case of Para-Psoriasis in a man aged 47; the lesions were circumscribed on both legs with an absence of the eruptions on the knees and elbows; also a case of Pityriasis Rubra in a boy aged 19, and a case of Varicella in a child.—Dr. W. Griffith showed a case of Fungating Syphilis affecting the scalp; the patient had received an intramuscular injection of salvarsan (0·6 grm.) 24 hours previous; the lesions were drying up very rapidly.—Dr. J. L. Phibbs showed two cases of Syphilis.—Dr. Dockrell showed a case of Lichen Hypertrophicus, the eruption affecting the bends of both legs, and a localised patch was present on the thigh; also a boy with a Bullous Eruption which had improved considerably under vaccine treatment.—The discussion on bullous eruptions was adjourned.

THE CANCER HOSPITAL.—The annual meeting of governors of the Cancer Hospital, Fulham-road, London, was held on Feb. 23rd, Lord Northbrook presiding. The committee in their sixty-third annual report stated that during 1913 the number of patients admitted to the wards was 787, an increase of 97 on the preceding year's total, while in the out-patients' department 990 new cases were treated, the total attendance numbering 14,308. The committee also reported that after carefully going into the matter of the provision of further accommodation they had adopted a scheme for the extension of the east end of the building whereby an extra 20 beds would be provided. The work will be put in hand at once, and the cost of the building will be about £7000, the upkeep of the extra beds being about £2000 a year. The financial statement showed an excess of expenditure over income during the year of £8048 2*s.* 2*d.* Legacies to the amount of £20,788 had been received during the year. Lord Northbrook was re-elected president of the hospital, and the other officers were reappointed. Mr. Charles Ryall, responding to a vote of thanks to the honorary medical staff, spoke of the effect of radium in the treatment of cancer. He said they were going through the experimental stage of radium treatment, and there was an enormous field of research and treatment amongst the patients at the hospital, but they were hampered by the inadequate quantity of radium at their disposal, and their inability to procure more owing to its scarcity and enormous cost.

Reviews and Notices of Books.

Blood Pressure in General Practice.

By PERCIVAL NICHOLSON, M.D. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 157. Price 6*s.* net.

THE estimation of blood pressure by means of mechanical methods has recently been much more extensively employed than was formerly the case. The usual manner of judging the arterial tension in actual practice has, of course, been by digital pressure, but by means of the sphygmomanometer permanent exact records may be obtained. The result on any occasion may thus easily be compared with that obtained at other times. Some experience is necessary before accurate readings and interpretations can be obtained, and Dr. Nicholson's object in writing this work has been to furnish to the general practitioner a short treatise on blood pressure entirely from the standpoint of its practical significance and value. He has reviewed the literature on the subject, and has utilised such materials as he deemed of clinical value, avoiding what are as yet purely theoretical considerations.

In the first chapter the technique is explained, stress being laid on the auscultation method, by which not only the systolic but also the diastolic and pulse pressures can be accurately determined. After a description of the principal forms of instruments that have been introduced, the physiological factors involved are discussed, one point being especially emphasised — namely, that the maximum, or systolic, pressure by itself indicates mainly heart strength, but equally, if not more, important the peripheral resistance is shown by the minimum, or diastolic, pressure. In the past comparatively little work has been done on diastolic and pulse pressures—a fact due largely to the difficulty in obtaining reliable readings with the instruments available and the methods used, but Dr. Nicholson maintains that this is no longer the case when the auscultatory method is utilised. In the chapter on hypertension the various morbid states that may produce this condition are mentioned. It is, of course, of importance to discover these causes of high blood pressure early, as they may determine the onset of a condition which, if continued, will cause serious and permanent changes in the vessel walls, which in turn produce cardiac hypertrophy with its subsequent weakening, and followed by failure of compensation. The remarks on hypotension also will be found of interest, and numerous suggestions are made in reference to treatment.

There is not much that is original in this work, but for those engaged in general practice it will be found useful in providing information in regard to blood pressure which it would take some time to obtain from the literature on the subject, published as it is mainly in journals and text-books on general medicine.

Geschichte der Biologischen Theorien in der Neuzeit.

Von Dr. EM. RÁDL. I. Theil. 2. gänzlich umgearbeitete Auflage. Leipzig und Berlin: Wilhelm Engelmann. 1913. Pp. 351. Price, paper, 9 marks; bound, 10 marks.

THE first edition of this work was published eight years ago, and it undoubtedly is the most comprehensive experiment made, since G. Carus in 1876 published his well-known "History of Zoology," to give a detailed account of what the

author calls the history of biological problems in modern times.

A short introductory chapter deals with the long bygone past and the Middle Ages, in which the author rapidly sketches the story of Hippocrates, Plato, Aristotle, Pliny, Galen, and their doctrines. A brief account is given of the origin of the earliest universities and of science amongst the laity, as represented by Albert the Great. This brings us to the chapter on the Renaissance, a singularly interesting one. Dante (1265–1321), Petrarca (1304–1374), and the invention of printing (1450) lead the author up to a very full account of Paracelsus, who was born in Maria-Einsiedeln, near Zürich, in 1493, just a year after Columbus discovered America. The career of this extraordinary man is set forth in full detail and with critical appreciation, including his period as professor in Basle (1526–28); his wanderings to and fro in Europe, his death in Salzburg in 1541 at the age of 48, his doctrines and his fantastic absurdities, his efforts to introduce simple chemical preparations instead of complicated decoctions of plants. To his medicaments he gave sometimes old names, but endowed those names with a new significance—i.e., arcanum, elixir of life, quinta essentia, mercurius vitæ. Surgery he threw overboard, and a foreign body embedded in a wound was not to be removed if it could not be removed simply by means of the fingers. The author's conclusion is that Paracelsus was a "biological philosopher," but no Titan and no superman, and he has been called "Lutherus Medicorum." The whole account of Paracelsus, which runs to nearly 70 pages, is most interesting.

This brings us to the "Dawn of Modern Science," with an account of Vesalius, Leonardo da Vinci (1452–1519), and Severino, professor of anatomy and surgery in Naples (1580-1656). Then we are given an account of the new Aristotelians, as represented by Cesalpinus of Pisa (1519-1603) and Harvey (1578-1657). Due weight is given to Harvey's work on embryology, a contribution to this department which is sometimes apt to be forgotten in view of his greater demonstration—the circulation of the blood. The account of Francis Glisson (1597-1677) and the Encyclopædists brings the reader to "the foundation of new scientific methods." The work of Leonardo, Galileo, Bacon, Descartes, Borelli, and Willis is successively considered, and then we come to the labours and achievements in the seventeenth century of Redi, Malpighi, Swammerdam, and Leeuwenhoek, and in the eighteenth century of Réaumur and Spallanzani. There is a short chapter on the Paracelcists as represented by van Helmont, and another on the Vitalists as represented by von Stahl of Halle (1660-1734) and Bichat (1771-1802). The rise of biology in the eighteenth century is next considered, including an account of the doctrines, influences, and work of Leibnitz, Ch. Bonnet, and A. von Haller. Epigenesis, cell theories, and the changes that take place in the germinal layers of the blastoderm form the basis of another chapter. The work of Linnaeus, Buffon, and "French morphology" are successively passed in review. Under "French morphology" we have an account of the origin of morphology—human, animal, and botanical—as represented by the work of Cuvier and Geoffroy St. Hilaire. This brings Part I. to an end.

This work is, so far as we know, the only one of its kind, and we heartily congratulate the author on it. He shows, by his luminous notes and references, as well as by the critical acumen to be found throughout its pages, his equipment for a difficult task. We look forward with pleasure to the appearance of the second part. We should state, although the author does not mention the fact, that he is *privat-docent* of the history of the biological sciences in the University of Prague.

LIBRARY TABLE.

Noted Murder Mysteries. By PHILIP CURTIN. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1914. Pp. 302. Price 7*s.* 6*d.* net.—The literature of famous crimes is growing apace, but Mr. Philip Curtin's book is in a different category from any other book that we have met with, written on the ever-fascinating subject of murder. Nine stories are here told with great literary dexterity, only the essential facts of each case being mentioned, and for these it should be said that the author has gone, where possible, directly to authoritative sources. The crimes which are treated of have been selected because, when all the available evidence is viewed and reviewed, there are features in them which are inexplicable. The mystery of these murders is not so much that doubt is present as to the perpetrator, as that the character, whether of the aggressor or of the victim, renders the circumstances of the murder inexplicable. Each narrative is made to point a short moral, these being indicated by such sub-titles as "Can a Wife Love too Well?" this being the terrible assassination of the Duchess of Praslin; "The Unwanted Child," this being the curious acquittal of the Marquis de Nayve of the murder of his wife's illegitimate son; "Where Platonic Love may Lead," this being the famous crime of the Peltzer brothers. Another point that all the fearsome episodes have in common, as well as their incomprehensible psychology, is the fact that all centre round women. The author finds that in the study of murder it becomes more and more apparent, as we look deeper into the origins of each event, that, in all those cases which come to be elevated to the position of famous murder mysteries, a large part is played by some form of illicit love. The mystery of the death of Charles Bravo certainly depended for its obscure features upon Mrs. Bravo's unintelligible intrigue between her first and second marriages. If the extraordinary story of Mrs. Bravo's amatory escapade had not come out a verdict of death by misadventure would probably have been returned. On the other hand, the story as the jury heard it furnished no logical reasons for murder or suicide. The part played by illicit love in the cases of Madeleine Smith, the Marquis de Nayve, Henri Chambige, and Edith Carew is obvious, while in the two best stories regarded simply as sensational plots, the De la Pommerais affair and the Peltzer affair, sex also played its part. These two stories are far less familiar to English readers than are the mysteries of Marie Lafarge and Madeleine Smith, but as a ready-made scenario for a dectective novel it is extraordinary that one or other of them should not have been elaborated into a famous sensational romance. The invention by the Peltzer brothers of a murderer, who had a name, an address, a business, and a fairly large personal acquaintance, but who had no existence, reads like a typical Gaboriau scheme; while Wilkie Collins

would have revelled in the situation created by De la Pommerais, when he persuaded his victim to poison herself. It is much to the credit of Mr. Philip Curtin that within the limits of a few pages he has been able to make the stories of these two elaborate crimes quite lucid. If he is not a novelist he had better become one at once.

A Course of Lectures on Medicine to Nurses. By HERBERT E. CUFF, M.D. Lond., F.R.C.S. Eng., Medical Officer for General Purposes to the Metropolitan Asylums Board. Sixth edition. London: J. and A. Churchill. 1913. Pp. 281. Price 3*s.* 6*d.*—The object of the author has been to provide a book of reference for nurses which will enable them intelligently to follow the progress of their cases, to grasp the meaning of symptoms, to understand some of the reasons which influence the physician in his adoption of different methods of treatment, and the results to be expected therefrom. In this endeavour he has succeeded well. To avoid becoming a mere machine a nurse should know something about the anatomy and physiology of the affected organ, and should have an elementary knowledge of the changes produced by disease, to enable her to understand the various points necessary for carrying out her instructions efficiently. Dr. Cuff has in no way overstepped the mark, and has written neither too much nor too little. The book can be recommended to those for whom it has been written.

Annals of Tropical Medicine and Parasitology. Series T.M. Vol. VII., No. 4.—No fewer than 12 contributions, all of scientific interest or practical value, are included in this number of the Annals. The first article is entitled "Studies in Blackwater Fever," by Professor J. W. W. Stephens, of Liverpool University, who considers in it some of the most important factors bearing upon the malarial origin of the disease, collected by him after a thorough examination of recent literature on the subject. A long list of references is given as well as a number of statistical tables.—Dr. John Gordon Thomson and Dr. David Thomson give the results of their researches on the growth and sporulation of the benign and malignant tertian malaria parasites in the culture tube and in the human host. This line of investigation was in the first instance suggested to these workers by Sir Ronald Ross, and it is of interest to know that they were able to cultivate the malignant tertian parasite on 12 occasions after the method of Bass and Johns, and the benign tertian three times. This paper is illustrated by a coloured plate showing the cultural forms of malarial parasites and by some microphotographs demonstrating the sporulation of the malignant tertian parasite.—The Trichonocardiases (fungus affections of the human hair), of which three varieties have been met with in the Anglo-Egyptian Sudan, form the subject of a joint paper by Dr. Albert J. Chalmers, Director of the Wellcome Tropical Research Laboratory, Khartoum, and Captain W. R. O'Farrell, R.A.M.C., protozoologist to the same institution. The causal agent of this hair affection of the axilla or pubis in man is Nococardia tenuis (Castellani, 1911) either alone or in association with other organisms. This paper is illustrated by a coloured plate and several microphotographs.—Dr. Chalmers, together with Captain A. D. Stirling, R.A.M.C., senior medical officer with the British troops at Khartoum, describes an interesting epidemic of trichonocardiasis which occurred in the Welsh Regiment while stationed at Khartoum; 42 soldiers were affected, the disease spreading from man to man. The primary cause of the outbreak was traced to an infected washerman employed by the regiment.—Hereditary infection, with special reference to its occurrence in the hyalomma Ægyptum infected with crithidia hyalommæ, is the subject of an article by Captain O'Farrell, illustrated by three plates. Crithidia hyalommæ is a flagellate parasite occurring in the hæmocœlic fluid, salivary glands, ovary, oviducts, and ova of hyalomma Ægyptum, the common cattle tick of the Anglo-Egyptian Sudan.—Dr. B. Blacklock and Dr. Warrington Yorke supply a paper on trypanosoma vivax in rabbits, and the same authors discuss in a second contribution the probable identity of trypanosoma congolense (Broden) and T. nanum (Laveran); their investigations lead these experts to express the opinion that in the present state of our knowledge we can only conclude that T. congolense and T. nanum are the same parasite.—The pathogenicity of nosema apis to insects other than hive-bees is discussed by Dr. H. B. Fantham, D.Sc., and Dr. Annie Porter, D.Sc. These investigators believe that the "bee disease" is pathogenic to other kinds of bees as well as to wasps, some butterflies and moths, blowflies and crane-flies, and the sheep "ked."—The same two experts furnish an article on Herpetomonas stratiomyiæ, n.sp., a flagellate parasite of the flies stratiomyia chamelon and S. potamida, with remarks on the biology of the hosts (illustrated).—Mr. Henry F. Carter, F.E.S., contributes a paper on certain mosquitoes of the genera Banksinella (Theobald) and Tæniorhynchus (Arribalzaga), and Mr. Fred. Theobald, F.E.S., supplies a description of new culicidæ from the Sudan.—Dr. J. G. Thomson and Dr. Fantham publish in a paper the preliminary results of their investigations on the cultural forms of Babesia (piroplasma) canis *in vitro*. These experts succeeded in cultivating this organism in two out of four attempts, employing the method described by Bass. This contribution is illustrated by several microphotographs. This number concludes the seventh volume of the Annals, a table of contents and an index being appended.

Lectures on Medical Electricity to Nurses. By J. DELPRATT HARRIS, M.D. Durh., M.R.C.S. Eng., Senior Surgeon and Medical Officer in Charge of the Electrical Department, Royal Devon and Exeter Hospital. London: H. K. Lewis. 1913. Pp. 88. Price 2*s.* 6*d.* net.—This manual is intended for hospital trained nurses seeking employment in the electrical department of a hospital or undertaking the treatment of a private patient under the supervision of a medical man. It is written in a clear and elementary manner and covers every branch of work likely to be demanded of those for whom it is intended. It is not meant for medical men, but doubtless many electro-medical specialists and others will be glad to know that such a book is available to put into the hands of those who work under them. Chapters are given on the X rays, Finsen light, high-frequency currents, and diathermy.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. VII., No. 26. January, 1914. Oxford: At the Clarendon Press. Subscription price 25*s.* per annum; single numbers 8*s.* 6*d.* net each.—The contents of this number are: 1. Intracranial Serous Effusions of Inflammatory Origin, by W. B. Warrington.

It is claimed that the progress of an inflammatory effusion within the skull may be arrested at the serous stage, that the effusion may be the important pathological fact, and that the symptoms may simulate the most grave forms of brain disease. It is suggested that the primary cause may be a near or distant focus of septic infection, and that the toxins, not the micro-organisms, lead to the formation of excess of fluid.—2. The Experimental Formation of Acute Gastric Ulcers, by T. R. Elliott. In the course of some experiments with tetrahydro-β-naphthylamine hydrochloride it was found that when injected subcutaneously into guinea-pigs it caused the formation of acute gastric ulcers. These were due to the action of the gastric juice on the damaged mucous membrane. They form in one or two hours, and heal with great rapidity unless they become septic. Repair epithelium covers the raw surface within three days, and from this the glands are regenerated later.—3. A Contribution to the Study of Bronzed Diabetes, by J. F. Gaskell, A. F. Sladden, R. L. Mackenzie Wallis, P. T. Vaile, and A. E. Garrod. A careful and detailed record of the clinical, pathological, and chemical features of a case of this disease, together with an account of necropsy and histological examination of the organs, is given. Some interesting general observations upon the nature of the disease are also appended.—4. On the Infective Nature of Certain Cases of Splenomegaly and Banti's Disease, by A. G. Gibson. In the spleen of six cases, three with the picture of Banti's disease, two with splenic enlargement and fibrosis, and one with splenomegaly, there were found appearances suggesting the parasitic invasion of the organ by a streptothrix organism.—5. On Pneumo-pericardium, by John Cowan, Archibald W. Harrington, and J. R. Riddell—an interesting record of a case of pneumo-pericardium, with some admirable reproductions of skiagrams, through which the condition was diagnosed. These appear to be very rare at present, the only other published being that of Wenckebach's case of artificial pneumo-pericardium.—6. Critical Review: The Pituitary Body, by Emil Goetsch. A useful critical summary of the present state of our knowledge in regard to the structure, functions, and pathology of the pituitary body is given, together with a bibliography.

The Military Surgeon. Published by the Association of Military Surgeons of the United States, Washington, D.C. Editor, Major CHARLES LYNCH, U.S. Army. Price $3.50 per annum.—The January number has several papers of particular interest.—The annual report of the Surgeon-General of the United States Army for 1912 states that the daily sick-rate of the year was the lowest on record (not precisely stated, but apparently 25·5 per 1000). The sick-rate from disease was 39·85 per 1000 in the Philippines and 22·57 in the United States; the difference is supposed to be the effect of tropical service. The admission rate was 823·94, also the lowest on record. The invaliding rate has decreased, in part because men can no longer be invalided by a single medical officer, but must be brought before a board. The insufficient strength of the hospital corps is displayed to notice, it having only one-fourth of the numbers required on mobilisation. The army has now a good shoe, thanks to a committee of which Major E. L. Munson, of the Medical Corps, was president. From the Philippines it is reported that "many skin lesions of the leg are due to the constant wearing of leggings." According to the report of the Surgeon-General of the United States Navy for the fiscal year 1913 the rates in the navy also appear unusually low, the daily sick-rate being 25·9, and the admission rate 787 per 1000. Deaths have also decreased. Typhoid inoculation has justified itself; in 80,000 completely inoculated only 7 cases had occurred, and of these 4 were in the same small tropical station where the vaccine used had deteriorated. An increase in the admissions for venereal disease is reported, but the number of days under treatment is lessened, and that is thought due to prophylactic measures, which if used within six hours will prevent venereal disease. It is recommended that prophylactic packets be put on sale in ships' canteens and that all persons on the sick list for venereal disease shall forfeit their pay. The advantage of this last recommendation has been long considered chimerical; it must be the frequent inspections which have brought it again into practical politics. A medical reserve corps has been formed, but the medical department of 292 officers is 55 (16 per cent.) below strength. Thirty-four recommendations close the abstract; of them we may note: (1) that receiving ships be abolished and their crews sent to naval barracks which should be built; (2) barracks in dockyards to take the crews of all ships undergoing long refits; (3) boards to report on the best illumination of ships and on "crew's heads" (water-closets); (4) a hospital ship for each fleet; (5) for each ship a sanitary barber's shop, a garbage destructor, and a laundry; (6) no drugs to be sold in canteens; (7) identification labels to be worn by officers and men during every battle drill (general quarters); (8) short courses for medical officers; (9) white uniform to be replaced by khaki; and (10) the abandonment of the Naval Tuberculosis Sanatorium at Las Animas, Colorado, though earlier in the report its results are stated as "in a large proportion of cases gratifying." Some of these recommendations will introduce English practices into the United States navy, and on the other hand others here made have long been desired by our own naval medical officers. In the National Guard of the United States (the territorial volunteers), antityphoid vaccination is being more and more used; in some corps recruits have to be vaccinated before enlistment. "To overcome the evil influence of 'devil doctors' in Samoa the commandant of the naval station at Tutuil has established clinics for natives." A special campaign against trachoma is being undertaken in Kentucky; an unusual note states that an officer of the public health service has been detailed to ascertain "the cause of the high rate of physical efficiency of certain" Government printers. Now that it has been made difficult to procure opium and cocaine in the United States many drug victims have turned to heroin, the sale of which is not as yet carefully restricted under State laws.—A very important address on Medical Ethnology, by Lieutenant-Colonel C. E. Woodruff, should be carefully read; we can only touch here on one point—the importance of skin pigment to animals and men in countries of bright sunshine. The white domestic pig cannot survive in lands with intense sunshine, nor can white fox terriers or other pets be acclimatised in India. All tropical animals have dark skins as a protection against light. Man is little more independent of his climatic environment; different races have vitality varying in different climates, and stand up differently against infections. In Portland, Oregon (latitude of Bordeaux), Scandinavians resist tubercle well, but in Los Angeles, California (latitude of Agadir), they succumb quickly, though Italians show there good resistance. The Baltic type of man, like an Alpine plant, wants a certain latitude or altitude, or a certain cloudiness, as protection from light (shown by statistics produced from various sanatoriums and otherwise). The triumphant Vandals did not last two centuries in Northern Africa. The Baltic stock survives in the mountains of Tennessee, but has died out in Louisiana, and is not holding its own even in the St. Lawrence Valley. The climate of the United States does not suit blondes. Colonel Woodruff has never seen a yellow-haired soldier in the United States Army who had ancestors in the country before 1848; the students, too, in New England Universities are all dark. Hippocrates noted how phthisis in the Mediterranean killed fair people. Nature does not alter individuals; it kills those who are unsuitable. The practical conclusion is that we should more carefully choose the climate to which we send consumptives and other invalids, not sending blondes to places of bright sunshine nor brunettes to cloudy districts.

MISCELLANEOUS VOLUMES.

AMONG the miscellaneous volumes calling for notice this week industrial effort claims two books on dairying, reminiscence lends a page to the history of the New Zealand war, imagination takes wings to itself in a book of verses by a medical *confrère*, while some of the hard facts of life are garnered for us in three reference handbooks and a small manual on the National Insurance Act.

British and Colonial Dairying, by G. SUTHERLAND THOMSON, F.R.S. Edin. (London: Crosby Lockwood and Son. 1913. Pp. 464. Price 9*s.*), is intended for school, farm, and factory use, and it presents a very good account of the dairy methods pursued not only in this country but also in the colonies. References to dairy development could scarcely be complete without an allusion to the busy milk countries Denmark and Sweden, and in Chapter VIII. some interesting particulars in regard to the policy of Danish and Swedish milk industries are given. The subject is treated from both a practical and scientific standpoint, and the

author's account will be of value to dairy farmers and others concerned in the industrial preparation of dairy products.—— A kindred booklet is *Farm and Creamery Buttermaking*, by C. W. WALKER-TISDALE, F.C.S., and THEODORE R. ROBINSON, F.S.I. (London: The "Dairy World" Office. 1913. Pp. 194. Price 3*s*. 6*d*. net). This is a capital little guide for prospective buttermakers. The treatment of the subject is both practical and scientific. Thus there are useful directions given for the analytical examination of dairy products, while their practical management is clearly set forth. Cleanliness is very properly insisted upon throughout.

From his recollections of the now distant New Zealand war in the "sixties," and his more recent experiences in Natal and the Transvaal, Colonel G. HAMILTON-BROWNE has put together in *Camp Fire Yarns of the Lost Legion* (London: T. Werner Laurie, Limited. Illustrated. 1913. Pp. 301. Price 12*s*. 6*d*.), a cheery and gossiping volume of amusing stories and tales of adventure. Some of these are distinctly thrilling, being first-hand accounts of fighting against odds and marvellous escapes in the New Zealand operations, and again in Zululand. The accounts of being lost in the Bush, one of the author's own adventures in New Zealand, and the other of two instances in South Africa, are most realistic.

A pleasing little book of song by "A PHYSICIAN" is *Time and the Timeless* (London: Henry J. Glaisher. 1914. Pp. 95. Price 2*s*. 6*d*. net), described by the author as Songs of Shadow and of Hope. It consists of many charming, and not a few deep, thoughts expressed in smooth and flowing verse. The author has the "lyric lilt." Some of the numbers have a medical theme—"This Little Bistoury," "In Memoriam: Sir Andrew Clark," "To a Brother Physician." We quote the author's introductory verse—

> A few stray flowers of Song
> Found in my garden. Call them only weeds,
> But Nature sowed the seeds,
> And unto her do they belong.

The twenty-fifth annual issue of the *Public Schools Year Book, 1914*, edited by H. F. W. DEANE, M.A., F.S.A., and W. A. EVANS, M.A. (London: The Year Book Press. Pp. xxxii.–835. Price 5*s*. net), contains information likely to be sought by parents, schoolmasters, and others. The first part of the book is devoted to a summary of the proceedings at the last Headmasters' Conference, and this is followed by a list of public schools, with particulars of the governing bodies, staffs, admission, entrance examinations, fees, prizes, and so forth; while the second part gives details of scholarships at the public schools, examinations for entrance to the universities, and conditions of admission to the navy, army, Civil Service, and other professions. Lists of preparatory schools, with particulars relating to them, and articles on various professions, as well as lists of school books, are included among the excellent features of this publication.—— Although *The International Whitaker* (London: Messrs. Whitaker; New York: The International News Company. 1914. Pp. 511. Price 2*s*.) is only in its second year, its merits have given it a place equal with that of the more local publication from which it takes its name. It contains information with regard to the geography (physical and political) of all the countries of the world, compiled from official sources, and in many cases revised by Government departments. There is an index of 36 pages, making reference to statistical, geographical, and commercial information concerning the whole world easily accessible. The crude linen cover of last year has given place to a neat cloth binding and the corners of the book have been rounded.—— *Herbert Fry's Royal Guide to the London Charities*, edited by Mr. JOHN LANE (London: Chatto and Windus. 1914. Pp. 359. Price 1*s*. 6*d*.), gives in alphabetical order the name, date of foundation, address, objects, annual income, chief officials, and so forth, of the various charities of London. The preface contains a valuable summary of the large charitable donations and bequests of the past year.—— In THE LANCET of August 3rd, 1912, p. 298, we noticed a little twopenny pamphlet by Dr. J. T. RICHARDS, of Battersea, entitled *National Health Insurance, a Plain Exposition of the Act*, in which the writer, putting himself in the position of the insurable person, discusses what his payments are to be, how they are to be made, what the benefits are, and how they are to be obtained. This pamphlet has now reached a fourth edition, and is published in two forms—first, as before, price 2*d*., with the changes made in the Amending Act, 1913; and secondly, price 6*d*., with marginal references to the sections of the Acts from which the condensed statement is made. The pamphlet is merely explanatory, not argumentative, and can be cordially recommended.

New Inventions.

A SEMI-AUTOMATIC ABDOMINAL RETRACTOR.

THIS instrument, a modification of the well-known Edmunds's retractor, consists, essentially, of two parts: (1) the main portion—i.e., a handle with hoop and blade, which retracts towards the surgeon; and (2) a detachable shaft with a different sized blade at either end. When one blade is used for retracting the other serves as an adjusting handle. The two are united by a screw joint at the shoulder of the main portion. To prevent any slip the contact surfaces of the two parts are serrated, one turn of the screw being sufficient to lock the retractor at any required degree of retraction. The advantages of this instrument are, first, it can be used

as an easily adjusted automatic retractor, any slip being quite impossible. Secondly, if the anæsthesia is not giving sufficient stability of abdominal muscles the assistant can steady the instrument by means of the handle. He can also manipulate it to give exposure to any region of the operation field, as required by the surgeon, on either side of the incision. This frequently eliminates the necessity of two or more assistants being called upon to retract. Thirdly, the lipping on the retracting blades allows the abdominal walls to be well held up for the purpose of reducing intestines.

Messrs. Allen and Hanburys, Wigmore-street, London, W., are making this instrument for me.

Portland Court, W. JOHN EVERIDGE, F.R.C.S. Eng.

THE HAMILTON COMBINED CANTEEN AND FILTER.

THE construction and arrangement of this combined canteen and filter were described in THE LANCET of Oct. 7th, 1911. Since this notice appeared Miss O. M. Hamilton, its inventor, has obtained a bacteriological report upon its germ-filtering efficiency from Dr. John Eyre, of the Bacteriological Laboratories, Guy's Hospital. The report shows that the porous candle used filters rapidly and gives a sterile filtrate. Bacillus prodigiosus (an organism much smaller than typhoid and dysentery germs) only came through in appreciable numbers on the fifth day. In one experiment the original water in the canteen contained 15,000,000 B. prodigiosus per cubic centimetre. These results speak well for the filtering power of the porous material employed. The canteen is a small curve-shaped cistern in which is suspended a protected case enclosing the germ-proof filtering cylinder. All parts are easily detachable and therefore cleaned, while the efficiency of the filter can be ensured by mechanical cleaning and by placing it in boiling water when that is available. An important feature consists in the provision made for drawing the water by suction. As we pointed out before, the soldier does not drink from it by tipping the apparatus to his lips as from an ordinary drinking utensil, but by drawing the water from a nipple at the top by suction. It is a very neat and compact apparatus.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 28, 1914.

The Housing Conditions in Dublin.

THE Departmental Committee appointed last November by the Local Government Board for Ireland to inquire into the housing conditions of the Dublin working classes has lost no time in preparing its report,[1] which was presented to Parliament last week. The making of this speed has perhaps brought it about that the report is less full in certain directions than we might have desired, and is probably responsible for a certain lack of arrangement which gives rise to various repetitions. Nevertheless, the report covers well the ground indicated by the terms of reference to the Departmental Committee, and the suggestions made by the committee will form the groundwork of plans for future action. Above all things, the report is outspoken, and no attempt is made by the committee to gloss over the existence of grave abuses in the municipal management of the metropolitan city of Ireland.

For purposes of discussion the document may be divided conveniently into three parts. The first part deals with the present housing condition of the working classes; the second with the powers and activities of the local sanitary and housing authority, the Dublin corporation; and the third embodies the suggestions of the committee for the remedy of the grave troubles whose existence has long been patent, not only to sanitarians and medical men, but to all thoughtful citizens. The conditions under which the working classes in Dublin are housed have been described recently in our columns[2] with some particularity of detail, and in terms that leave no doubt as to their revolting nature. It is not necessary to repeat what we then said, for, indeed, it is all common knowledge now. The general position may be summarised as follows. Some 63 per cent. of the total population of Dublin belong to the working classes, apart from domestic service; and this proportion of the inhabitants live in tenements for the most part of not more than four rooms. About half of this number live in the so-called "tenement houses," each of which accommodates anything from four to eight families. And a little over 20,000 families occupy only one room each. The proportion of the population occupying one-room tenements is thus 22·9 per cent. of the whole, and is higher than can be found anywhere else in Great Britain and Ireland, the urban centre approaching nearest to this sinister situation being the Finsbury district of north London, where 14·8 per cent. of the population inhabit single-roomed tenements. The tenement houses of Dublin are divided by the sanitary staff of the corporation into three groups, the third and worst of which groups is classified under the description "houses unfit for human habitation and incapable of being rendered fit for human habitation." More than one-fourth of the tenement houses of Dublin fall into this group, and 22,701 persons inhabit these houses. Apart from this overcrowding in unsuitable dwellings, the committee find the general sanitation of tenement houses far from satisfactory as regards cleanliness and closet accommodation. The closets are insufficient in number, are common to several families and to both sexes, and are, practically without exception, in a filthy condition. Human excreta are scattered about the yards and on the floors of the closets, and in some cases in the passages of the houses. Our readers can draw the picture for themselves when they recall the factors that go to make it—the careless and poverty-stricken crowds, the seething and disgusting environment. From all this it will be seen that the corporation of Dublin has not used its powers to compel cleanliness in tenement houses with any energy or success, but a sadder moral than this has to be drawn, in the opinion of the Departmental Committee. The paragraphs of the report which deal with the sanitary administration are, indeed, a direct indictment of the entire sanitary administration of Dublin, though it is right to add that one of the committee, Mr. J. F. MACCABE, does not support his colleagues in their blame of the corporation.

The committee, having summarised the sanitary powers of the corporation as regards their housing powers, conclude: "The plea of the corporation in regard to the insufficiency of their powers would have considerably more force were it supported by evidence of a rigid administration of existing powers." This want of a firm administration is declared responsible for the demoralisation of landlords as regards their duties, as well as of the working classes themselves, and has increased the number of inefficient workers in the city. It is shown, indeed, that the most flagrant and persistent breaches of the by-laws have been connived at. A worse thing remains to be told. It is within the powers of the corporation on a certificate from the sanitary staff to grant a rebate of 25 per cent. of the rates due on dwellings suitable for artisans and workmen, and fulfilling certain conditions. This rebate has been granted in many cases on houses classified as "unfit for human habitation," and in more than one instance the landlords receiving this rebate are members of the corporation. Such a state of affairs will certainly receive the closest attention, but the report gives in several places credit to the corporation for securing in recent

[1] Report of the Departmental Committee appointed by the Local Government Board for Ireland to Inquire into the Housing Conditions of the Working Classes in the City of Dublin. London: Wyman and Sons. 1914. Price 1s. 1d.

[2] THE LANCET, Nov. 8th, 1913, p. 1334.

years improved housing accommodation for the poor. The committee, however, estimate that it will require an expenditure of about £3,500,000 to allow of the sweeping away of all the houses belonging to the third group—that is, the houses classified alike as being unfit, and incapable of being rendered fit, for human habitation, and to replace these houses with adequate dwellings. Such an expenditure by the municipality would, the committee consider, be a too heavy burden on the rates, and they look in their recommendations alike to State aid and private enterprise to meet a terrible situation. Every encouragement, they say, should be given to the investment of private capital in building schemes of the right sort, and the principle of rebated taxation might be continued if it were employed under rigid conditions. But it is to State aid that the committee mainly look, and while Mr. MACCABE in his separate note recommends a civic survey as a preliminary to a scheme of town planning, he would probably agree that no such enterprise could be undertaken on a sufficiently large scheme at the expense of the Dublin residents.

The Value of a Scientific Education.

A LARGE number of the most profoundly foolish advertisements appear day after day in the columns of journals whose readers, it is natural to suppose, have received what is known as a good general education. We are reminded of the fact regularly by readers who send us newspaper cuttings, and who, if medical men, ask us to protest against the issue of such puffs as they enclose, or, if laymen, to give them information as to the accuracy of the claims made. We cannot think that these advertisements would be inserted if in no circumstances did they receive any response, and that is tantamount to saying that they appear to a fairly cultivated class of the British public, despite their preposterous character, to be reasonable statements, having just the natural bias of the inventor towards his own child. Yet these same advertisements to anybody who has had the least instruction in physics, who has some knowledge of the processes of cytology, of the properties of fluids, of what is implied by the words electricity and magnetism, become revealed as hopeless rubbish. The complete ignorance of the public as to the principles of natural philosophy makes them an easy prey to the imaginings of all kinds of faddists and self-deceivers and of not a few rogues.

But it is not only that they might be better protected against the wiles of the charlatan, or even that they might be better able to appreciate the true objective of medicine, that a general education of the public in scientific elements is mainly desirable; it is also desirable because with such knowledge the world becomes so much more intelligible a place. This, of course, is also the claim of those who uphold the universal instruction of our youth in the classics. Without reading literature at its fountain head, say the more ardent of these advocates, the evolution of thought, the development of philosophy, and the real value of historical episodes cannot be appreciated, and the lack of general standards thus implied unfits a man to some extent for leadership and makes of him also a less intelligent follower. But, as we all know, there is a wide difference of opinion on the subject, and this was recently very well illustrated when on one and the same day Professor H. B. BARKER addressed the general meeting of the Association of Public Schools Science Masters, and Sir FREDERIC KENYON, director of the British Museum, addressed the Classical Association. We quote from the *Times:* "Latin and Greek," said Professor BARKER, "ought to be regarded as luxuries and not as essentials in education. He hoped there would soon be an organised revolt of British parents against this system, and a demand that their boys should be taught subjects that would be useful to them in after life, such as modern languages, science, and mathematics." "Their creed," said Sir FREDERIC KENYON, speaking for the supporters of classical education, "was not merely that a man might read the classics and be blameless, but that a man would be a better man of business, a better lawyer, a better merchant, a better stockbroker, a less hide-bound politician, if he kept alive in his soul the love of literature, the interest in things of the intellect, of which the Greek and Latin classics were the spring and perennial source of refreshment." The diametrically opposed opinions, one or other of which is held, and often held vehemently, by all who consider the important question of education, cannot be reconciled by some middle course. There is no room in the educational life for instruction in modern languages, science, and mathematics on the one hand, and classics on the other, if the curriculum is to be genuinely followed out by any large proportion of students and to any reasonable standards of learning; and among those who naturally resort to the public school sooner or later a choice between the classical and modern sides has to be made. An increasing number of boys, with parental approval, are following the lead of Professor BARKER, and as far as medical education is concerned this is of good omen, not so much because the medical student gets small return from a classical education—for that is not at all our view, the value of such education has manifested itself time after time—but because a larger section of the public is receiving a training by which they can appreciate what medicine stands for, as well as understand something of the physical side of the world in which they live.

As a solution of the overloaded medical curriculum it has been suggested that the medical student should be separated at some earlier age than now prevails from his colleagues at school, so

that he may obtain during the school age the instruction in the ancillary sciences which will enable him to begin at a reasonable time his purely professional course. This would entail upon all parts of the country the provision at schools of adequate instruction in chemistry, physics, and elementary biology, if the youth of the different parts of the kingdom are to have equal chances, so that the proposal has great difficulties. These would be faced at once if the education of youth generally was in question, and not the training of a few predestined for a scientific career, but sooner rather than later the provision for scientific education will be forthcoming. We see all that is implied in arguing that such a compulsory training in natural philosophy should become general in our schools, and we do not expect for a moment that there will be any prompt acquiescence among educational authorities in the suggestion that in the ordinary school course natural philosophy should be the centre of the curriculum, classical and mathematical specialism being provided for as specialism in science now is provided for. But it is impossible not to see two things—first, that education has begun to travel in this direction; and, secondly, that with a public possessing a common and respectable grounding in science there will be a far wider appreciation of the meaning of medical practice. At the present time the medical man is oddly placed. He has successfully got rid of the old authority that he enjoyed as a mystery man, but he does not obtain any ready acquiescence in his views on purely scientific grounds, because the public has so little scientific training. This position matters very little to, say, an astronomer, or even an electrical engineer, but enormously to one who lives in the most intimate personal relations with his fellow man. When the education of the public prevents them from being imposed upon by the grosser advertisements of charlatans, the public will be in a far better position to criticise the practice of medicine, but also in a far better position to appreciate it.

Industrial Anthrax.

THE diffusion of knowledge relating to the dangerous character of imported hides, hair, and wool amongst employers of labour and those of their employees who risk infection, is probably responsible for the promptitude with which the latter, as a class, present themselves for expert medical advice whenever the necessity appears to arise. This promptitude, added to improved methods of investigation, makes for earlier diagnosis and correspondingly earlier and therefore more efficient treatment, and to these combined factors must be ascribed the reduction in the case mortality of anthrax infections noted during the past few years. But at this point we are faced by the fact that, despite Home Office regulations and the work of special investigation boards, the number of individuals who each year contract anthrax infection shows no signs of diminution. Indeed, so far as concerns the wool trade, there has been during the past ten years a slow but steady increase in the notifications made annually to the Medical Inspector of Factories. The Home Office regulations strangely enough only apply to factories and workshops and not to wharves and other places where the goods are unloaded from the incoming shipping, but the Home Secretary alluded this week in the House of Commons to the probability of early legislation to remedy this anomaly.

Obviously, there is urgent need for further investigation and increased activity in devising and enforcing preventive measures. Industrial anthrax is met with in one of two forms, either as a necrotic pustule on exposed or accessible cutaneous surfaces amongst those who handle the raw material, or as a pneumonia or broncho-pneumonia in wool-sorters or carders, who are liable to inhale the fine hairs and particles of dust given off during manufacturing processes, the clinical evidence of the disease usually manifesting itself within three or four days after exposure to infection. In each case the actual virus is identical in form, and consists in the spores of the anthrax bacillus, derived from desiccated blood clots and exudates from animals that have died or been killed whilst suffering from splenic fever; since there is practically no evidence implicating the actively multiplying bacilli. Hence the experiments recently reported from the Philippines by BRUIN MITZMAIN on the transmission of anthrax bacilli from infected to healthy animals by means of biting flies, such as Stomoxys calcitrans and Tabanus striatus, highly suggestive though they are in connexion with the problem of animal infection, have little bearing upon the prevention of trade anthrax. Now, the spores of B. anthracis do not come into existence until the blood and exudates have reached the surface of the infected animal's body and have there been exposed to a free supply of oxygen. Hence the acts of skinning the beast and drying the pelt promote the formation of spores, which in the dry state may retain their vitality and virulence even for very lengthy periods and until transferred to an environment suitable to their germination. If at this stage and in the country of origin the hides are "wet salted" for packing, the moisture promotes the germination of the spores, and the salt, if present in sufficient concentration, destroys the resulting vegetative bacilli. The value of this method is shown by the fact that hides so treated —such as are imported from Australia, South America, and some parts of Europe—hardly ever convey anthrax to the British worker, whilst those from China, Persia, East India, Russia, Siberia, and Africa which are packed in the dry state are responsible for the bulk of the cases of human anthrax in this country. Here, then, is a fairly reliable and at the same time simple preventive measure, but, unfortunately, the home consumer is powerless to compel the foreign

consigner to treat the goods before shipment; and the alternative, some method of treating the imported raw material on its arrival in this country in such a way as to destroy the infective spores or render them innocuous, has not yet been evolved—in fact, all the processes hitherto suggested, if efficient, have rendered the treated goods valueless from the commercial point of view.

Of preventive measures other than those directed primarily to the imported raw material, cleanliness in the persons and habits of those employed in the wool and hide trades is of the first importance. This point has recently been emphasised by the facts elicited during the progress of inquests in Bradford and Southwark respectively. In the former practically a fortnight elapsed between the cessation of work in a wool factory and the onset of the symptoms which terminated in generalised anthrax, but during the whole of that time the same shirt did duty day and night, and its wearer slept with another man who was still employed in the factory from which it was suspected the infection was derived. In the second case, nearly as long an interval occurred between the unloading of a consignment of Siberian hides and the appearance of a charbon on the chin of a casual waterside labourer, and during this interval the man was an inmate of a large common lodging-house under conditions the reverse of cleanly. In both these cases the inference is that the infective spores were carried upon the skin surface or the clothes of either the victims or their intimates for many days before they gained access to the tissues of their final hosts.

Annotations.

"Ne quid nimis."

A COMPLIMENTARY DINNER TO SURGEON-GENERAL GORGAS.

IT is proposed to give a complimentary dinner to Surgeon-General Gorgas, formerly chief of the Sanitary Department at Panama, now Surgeon-General of the U.S. Army, as a mark of professional appreciation of the splendid work achieved by him and by his two assistants, who are included in the invitation. The dinner will be held on Monday, March 23rd, at 8 P.M., and the place will be announced in good time. The proposal is supported by, among others, Sir Thomas Barlow, President of the Royal College of Physicians of London; Sir Rickman Godlee, President of the Royal College of Surgeons of England; Sir Francis H. Champneys, President of the Royal Society of Medicine; Sir David Ferrier, President of the Medical Society; Sir Havelock Charles, President of the Society of Tropical Medicine and Hygiene; Sir William Osler, Regius Professor of Medicine, Oxford; Sir Clifford Allbutt, Regius Professor of Medicine, Cambridge; Surgeon-General Arthur W. May, Director-General of the Naval Medical Service; and Sir W. Launcelot Gubbins, Director-General of the Army Medical Service. Sir Thomas Barlow has consented to take the chair, and it is hoped that the company will be thoroughly representative of the medical profession in London. The price of the dinner ticket (including wine) will be 25s., and as the number of seats is limited application should be made without delay to Mr. J. Y. W. MacAlister, the Royal Society of Medicine, 1, Wimpole-street, Cavendish-square, London, W. Viscount Bryce, until recently our Ambassador to the United States, and Mr. Lewis Harcourt, the Colonial Secretary, have already signified their intention of being present at the dinner.

THE CRAZE FOR HYPODERMIC MEDICATION IN ITALY.

Professor Ferreri, of the University of Rome, seizes the opportunity in a recent number of the *Policlinico*[1] of drawing attention to the alarming proportions this morbid psychic phenomenon has reached in Italy. Hypodermic medication has been elevated to the position of a universal panacea, and the populace is being slowly embalmed by it. Not only are heroic remedies, approved by the official pharmacopœia, introduced under the skin, but all the mysterious specialities, which, thanks to extensive advertisement in the press, are recommended either by medical practitioners, by real or fictitious members of religious orders in the odour of sanctity, or by manufacturers of chemical products on the verge of bankruptcy, are welcomed subcutaneously by a highly credulous public. Why is it, Professor Ferreri asks, that no one has hitherto had the courage to cry out against this monstrous liberty granted to those who are not doctors, and yet incur no responsibility in practising hypodermic medication? He considers that several factors have contributed in inducing this pernicious current of human therapeutics: the ignorance of the populace towards the elementary principles of health, scanty respect for sanitary laws and the acquiescence, not to say pusillanimity, of the medical profession, always at discord and therefore incapable of making its influence felt by the Government and Parliament. In France and Germany the law prosecutes those who, not being doctors, usurp medical functions. In this country, though Professor Ferreri probably does not quite follow the distinction, there is no law against quackery, but only legislation to prevent an unqualified practitioner pretending that he is on the Medical Register. In Italy, however, they allow chemists, druggists, nurses whether trained or not, monks, nuns, and quacks of all kinds not only to give injections of substances in common use or of known composition, but to invent and manufacture them for their own ends. One of the worst results of this strange liberty accorded to those who exploit the functions of medical practitioners is the increasing number of neuropaths who, attracted by the possibility and ease of cure without having to make known their ailments, practise on themselves injections of substances which are often highly dangerous, and in this manner the ranks of the army of morphinomaniacs, cocainomaniacs, and etheromaniacs are largely reinforced. In his own experience Professor Ferreri finds that numbers of patients present themselves for treatment with affections of the ear, nose, and respiratory organs due solely to saturation of the organism with more or less poisonous substances introduced by means of hypodermic medication. To remedy the evil he suggests the passing of a law prohibiting the use of hypodermic syringes except by medical men, and

[1] Il Policlinico, Anno xxi., Fasc. 6, Feb. 8th, 1914, Roma.

the sale of any speciality for injection which is not manufactured under State control. We may order things slightly better in this country, but nevertheless a perusal of Professor Ferreri's article makes us aware that we too have our grave shortcomings in similar directions.

METROPOLITAN ASYLUMS BOARD: THE POSITION OF ASSISTANT MEDICAL OFFICERS.

WE are informed that an Association of Medical Officers in the hospitals' service of the Metropolitan Asylums Board has recently been formed. The object of this association is, in general terms, to organise its members for the promotion of their efficiency and the defence of their interests. It is felt by the officers of this branch of the medical service under the Metropolitan Asylums Board that the time has come for a reconsideration of their status. The association, through its executive, will act as a means of communication between the assistant medical officers as a whole and the managers of the Board, and it is hoped that by collective representations, put forward in this way, various grievances which now exist may be remedied. The junior medical officers in fever hospitals and similar institutions undertake very responsible duties, and any endeavour by legitimate means to improve their position and prospects, and so to render the service more attractive, deserves the sympathetic attention of the authorities of these institutions, and should be supported by the medical profession generally. It is well known that the Metropolitan Asylums Board has lately had difficulty in filling junior medical posts, and one of the anomalies of the situation is that locum-tenents have been receiving much better remuneration than the experienced officers already in the hospitals' service. The honorary secretary of the new association is Dr. E. G. L. Goffe, North Eastern Hospital, Tottenham, N.

TREATMENT OF EPITHELIOMATA BY SUNLIGHT.

HELIOTHERAPY is much neglected in this country, but considerable attention has been devoted to it of recent years on the continent, particularly in the treatment of various forms of tuberculosis, in which remarkable results have been obtained. The new field of therapeutics opened up by the discovery of the X rays and radium suggests possibilities not yet discovered in the greatest form of radiant energy available on this earth—the sun's rays. In the *New York Medical Journal* of Feb. 7th Dr. H. H. Seelye has recorded several cases of cure of epithelioma by means of sunlight—a method which he claims to be not less efficient than the use of the costly element radium or the X rays. He simply focuses the sun's rays on the growth by means of an ordinary magnifying glass. For a number of years he has found this treatment invariably successful, chiefly in obstinate ulcerative patches on the face that repeatedly shed scabs only to leave a raw and bleeding base, which never heal under ointments, powders, or other local treatment, and recur in ever-increasing extent year after year. Such growths are usually of moderate size and are always malignant. Dr. Seelye focuses the clear sunlight on the sore for 10 or 15 minutes at a sitting. If a scab is present he concentrates the rays on it till the patient complains of burning. Then he lengthens the focus so as to cover with the rays an area of an eighth of an inch or more beyond the scab. Every few minutes he induces burning again for a second, not to a degree of cauterisation, and then he applies the rays more mildly. After about ten minutes the scab will look darker. During the next few days it will become more prominent and loosened. The treatment is repeated every day or two till the scab may be easily removed, leaving a raw bleeding ulcer. Then is the time for a powerful application. A few granules of cocaine are first applied. After three or four minutes an exposure so strong as almost to cauterise the ulcer may be borne and alternated with milder applications for about 15 minutes. Milder applications at intervals of three to seven days through the scabs, or immediately after their shedding, will usually complete the cure within three to six weeks. The scabs gradually become thinner and more superficial, and the sore bleeds less after their removal. At last healthy normal skin with scarcely a trace of scar is left. Rarely are more than 8 to 15 applications necessary. The following are examples. A man, aged 80 years, had a sore on the right cheek three-eighths of an inch in diameter, which had been treated without success by several practitioners for years. Scabs fell off or were picked off at intervals, leaving an angry ulcer. After three weeks use of the sun's rays focused as described healthy skin formed over the ulcer and later no sign of the sore or scar remained. Several years have elapsed without recurrence. A woman, aged 80 years, had an epithelioma over the left eyebrow three-quarters of an inch in diameter. It had been treated without avail for several years by various local measures. It always failed to heal and was gradually enlarging. After two weeks' treatment with the sun's rays the ulcer was smaller and shallow and healthy looking. In two more weeks it was completely cured and left no scar. The only case of failure out of seven cases narrated occurred in an old and feeble man. The whole of one cheek was eaten away by a deep, angry, irregular, ulcerating growth of the size of the hand. It was extremely painful and cocaine and morphine were freely used. After half a dozen exposures the ulcer was gradually filling up and there were lessening of secretion and a tendency to heal. But failing strength caused the patient to cease his visits and he took to bed, where he died in a few weeks.

MANGE AS A HUMAN DISEASE.

THE study of comparative pathology has opened the eyes of the medical profession to the fact of the close relationship that may exist between all members of the animal kingdom, including man himself, in regard to the extension of various diseases beyond their original sphere of influence. Glanders and anthrax have long been known to be communicable from animal to man. That some intertransmission may exist in tuberculosis has been more lately established. Aphthæ, tapeworm, sleeping sickness and other diseases transmissible from animal to man by biting insects come to mind. The transmission of mange from dogs to human beings was commented on in an illuminating article in the *Veterinary Journal* for November, 1912,[1] and the same journal in its February issue this year publishes a further clear case by Mr. John Buscomb, M.R.C.V.S., in which two Pomeranian puppies suffering from sarcoptic mange infected first the maid who cared for them, and later two neighbours, each of whom took charge of one of

[1] THE LANCET, Nov. 23rd, 1912, p. 1449.

the puppies during the absence of their owners. The irritation in the affected human beings was very severe and demanded medical attention. The editor of the *Veterinary Journal* suggests that in the case of a puzzling skin complaint in human beings a consultation with a veterinary *confrère* may help to enlighten the medical attendant. He further insists that the order making mange a notifiable disease should be extended to dogs; and having in view the intimate relations between dogs and the human family we are entirely in accord with him.

THE PANCAKE.

ALTHOUGH there is some obscurity surrounding the origin of the pancake, it is certain in early times to have been associated with more or less hilarious proceedings, whether religious or pagan in origin. One obvious inference is that Shrove Tuesday, or pancake day, was made a festive occasion in view of the approach of the fasting season. The pancake would thus seem to have symbolised a sort of joy-day on which the people meant to have a fling before dietetic restrictions were imposed upon them, and while the full effect of shriving was to be felt. Considered from a physiological point of view, the custom of eating pancakes is commendable; it is a satisfactory fact that they have become popular sweets at other seasons than Quinquagesima, for they are nourishing and digestible food. A review of the ingredients which provide the formula shows at once that the pancake is a singularly complete diet, containing, that is to say, all classes of food materials. It is rich alike in proteins, carbohydrates, fats, and mineral substances, all in an acceptably assimilable form. It is doubtful whether there is a single manufactured or patent food upon the market which can claim such a valuable range of dietetic properties. Apart, moreover, from its dietetic value the pancake possesses an important pharmacology, inasmuch as it is rich in lecithin, which is now known to have a special significance in the processes of nutrition and metabolism.

LARYNGEAL PARALYSIS IN MITRAL DISEASE.

RECOGNITION of paralysis of the recurrent laryngeal nerve in certain cardio-vascular diseases is not of recent date, for as early as 1852 Legroux described a condition of partial aphonia or hoarseness, due to compression of the nerve in a case of aortic aneurysm. Until a few years ago it was thought to take place exclusively in affections of the aorta and some forms of pericarditis of a plastic type, but latterly this symptom has been observed, although not very frequently, also in the course of cardiac valvular disease. For the most part the left recurrent nerve is implicated for well-known anatomical reasons which render it more susceptible to stretching and compression in cases of mitral disease, but interesting cases have been reported by Rossi where the right side was affected, and by Quadrone where both sides were affected. The explanation usually given is compression on the loop of the nerve exercised by an enlarged left auricle, and it is not necessary to insist on the great value of radioscopy in the study and diagnosis of such cases, which are rare, not more than 50 having been published hitherto. In a recent number of the monthly review published in connexion with the Ospedale Maggiore at Milan Dr. D. Tronconi relates a case of ordinary mitral insufficiency which had reached the stage of failing compensation and where a left laryngeal paralysis which developed at the outset of the compensatory failure persisted after this condition had disappeared. The radiograph given of the case confirms the positive and negative aspects of the clinical examination and allows the exclusion of mediastinal or aortic lesions, showing that the laryngeal paralysis is directly and solely dependent on the cardiac valvular lesion. Not only this, but it also proves that the heart, although enlarged, is not displaced, while it is evident that the pulsating prominence of the left auricle goes far to disprove the theory put forward by Kraus that the paralysis in such cases is due to the nerve being stretched in consequence of the displacement downwards of the enlarged heart and vessels.

A SIMPLE AND EFFECTIVE METHOD OF DISINFECTING TYPHOID STOOLS.

IN the *Boston Medical and Surgical Journal* of Jan 8th Dr. H. Linenthal and Mr. H. N. Jones, bacteriologist to the Massachusetts Board of Health, have pointed out the inadequacy of the usual method of disinfecting typhoid stools, which consists in sprinkling over them a little chloride of lime or sulpho-naphthol and promptly depositing them in the water closet without allowing the disinfectant to mix with them. If the excreta are accessible to flies the danger of the disease being spread is obvious. The bedside disinfection of stools is not such a simple matter as it might appear. The proper utensils are often not available, and the thorough mixing of the stool with the disinfectant and the necessary exposure to its action will in the great majority of cases not be carried out, even when detailed instructions have been given. Dr. A. H. Dotty made experiments with the various disinfectants usually recommended as they are generally employed. He found that at the end of 20 hours' exposure but one eighth of an inch of the fæcal mass was disinfected. Heat—boiling water or steam—is the only effective method of dealing with typhoid stools, but an apparatus for the purpose is not available in households. A method to be of general use must require only such utensils as are available in any household and so simple as to require little skill. A method was devised by Dr. A. M. Kaiser in the Hygienic Institute of Gratz University, and was described by Dr. Prausnitz at the Fifteenth International Congress on Hygiene and Demography held in Washington in September, 1912. It consists in adding enough hot water to cover the stool and then about one-fourth of the entire bulk of quicklime, covering the receptacle and allowing it to stand for two hours. The hydration of the lime generates enough heat to destroy the typhoid bacillus. Dr. Linenthal and Mr. Jones tested this method. They first determined the amount of heat generated and the length of time it is retained. To make the conditions as rigid as possible they used an ordinary tin pail with a loose fitting cover. To a litre of cold water they added from 300 to 400 grammes of ordinary commercial quicklime. They found that the heat generated varied. In some experiments the temperature rose to 80° or even 90° C. in about ten minutes; in others it took 20 to 30 minutes for the temperature to rise to 75°, and a temperature of over 60° was maintained for 1½ hours. In several observations the temperature did not rise above

55°, which was due to the poor quality of the lime, although it came from the same lot as the better lime. If, however, hot water, ranging in temperature from 50° to 65° C., was used in the experiments, the temperature invariably rose to 75° or more in 10 minutes, and in 20 minutes reached 85° and often 90°, and a temperature of over 60° was maintained for 1½ hours or longer. The temperature was maintained for a longer period when an earthen vessel was used than when a tin vessel was. This process therefore generated enough heat to destroy the typhoid or any other organism with the exception of spore bearers. The next question was whether the heat was sufficiently penetrating to destroy the organisms in the centre of the fæcal mass. To determine this capillary tubes containing living typhoid organisms were buried in the centre of the fæcal mass, small lumps of lime, about 400 grammes, were distributed over it, and enough water was added to cover the stool, and the mixture was allowed to stand for 1½ hours. In all these experiments cold water was used. The capillary tubes were then taken out and broken into a bouillon culture. No growth took place. Dr. Linenthal and Mr. Jones conclude that the addition of about a cupful of commercial unslaked lime to a typhoid stool will generate enough heat to kill the typhoid organism. Cold water may often suffice, but it cannot be depended on owing to the varying quality of the lime. Hot water from 50° to 60° C. will always give the desired results. The lime used should be broken up in small pieces and distributed over the stool. This simple and efficacious method should, they consider, take the place of the various methods now recommended.

HYPERPLASIA OF THE MUCOUS MEMBRANE OF THE UPPER RESPIRATORY TRACT.

Two cases of a peculiar hyperplasia affecting the mucous membrane of the upper respiratory tract are described by Dr. A. Logan Turner in the *Journal of Laryngology, Rhinology, and Otology* for February. He has been able to find but four similar cases in the literature; three of these were published by Sir Felix Semon in THE LANCET of Feb. 25th, 1905, and the fourth by Dr. A. Brown Kelly in THE LANCET of April 6th, 1901. The condition is thus obviously one of great rarity. In Dr. Turner's first case, a man, aged 44, in previous good health, was awakened during the night by pain in the throat and dyspnœa. These symptoms progressed, pyrexia followed, and on the fourth day tracheotomy became necessary. Two days later, when Dr. Turner saw him for the first time, the nose and nasopharynx were not abnormal; the uvula and soft palate were œdematous; the epiglottis was red and swollen, and curved backwards so as to form a narrow horse-shoe slit; the arytenoids were swollen, and no view of the interior of the larynx could be obtained. There was no history of syphilis, and no benefit was derived from antisyphilitic treatment. After ten days the tracheotomy tube was removed and the patient got along fairly well, though subject to colds with some respiratory trouble, for six years. He then again suffered from laryngeal obstruction, which nearly made a second tracheotomy necessary. Vaccine treatment was then instituted and no further attacks have occurred since. Three and a half years after the second attack of obstruction Dr. Turner found the uvula and soft palate normal, but there was still much infiltration of the epiglottis and arytenoids. His second case was that of a woman, aged 52, who had been under observation for over a year. Her symptoms and signs were similar to those of the first patient, but less severe; tubercle, syphilis, and rhinoscleroma, as well as myxœdema were ruled out of court. Summarising the six cases, Dr. Turner notes that there were four women and two men, ranging in age from 30 to 52. All had enjoyed good health, and showed no evidence of disease elsewhere than in the throat. Absence of ulceration characterised all the cases, and, probably owing to this, pain was not complained of. The vocal cords and the voice were always unaffected. The local conditions vary slightly from time to time, but even after 10 and 14 years neither ulceration nor cicatrisation can be detected. Histologically a great similarity of structure is exhibited; chronic inflammatory changes are present without demonstrable signs of any specific infective disease. No specific micro-organisms have been found. Arsenic, iron, mercury, iodides, and thyroid gland have proved of little value in treatment. Salvarsan has not been tried. Dr. Turner concludes that this is a definite pathological condition of the fauces, pharynx, and larynx which cannot be placed in the category of any recognised disease affecting this part of the body.

THE HOUSE OF THE ROYAL SOCIETY OF MEDICINE.

AT a recent dinner of the Council Club of the Royal Society of Medicine, the President of the Society, Sir Francis Champneys, announced that the Society had now received its title-deeds from Lord Howard de Walden, with a certificate from the Land Registry that the title was a good one. These deeds convey to the Society for 1000 years, save one, the site upon which their new building has been erected. The grant is subject to a moderate ground rent, and for all reasonable purposes the Society has a free hand in dealing with the property. This must be very satisfactory to the Fellows, and particularly to those who have worked hard to establish the Society as a permanent and prosperous institution. It should encourage those who have not already done so to support the building fund, for many Fellows hesitated to do so while the lease, as purchased by the Society, secured a tenure only for 80 years.

TUMOURS OF THE PREFRONTAL REGION OF THE BRAIN.

Dr. L. Newmark, of San Francisco, has published in the *California State Journal of Medicine* for November, 1913, a series of four cases of tumour of the anterior pole of the hemisphere which present certain features of interest from the diagnostic and other points of view. Much diversity of opinion still exists as to the clinical picture produced by tumours in this region. It will be remembered that Dr. A. W. Campbell, in his brilliant investigations on the localisation of cerebral function, came to the conclusion that the importance of the prefrontal region was exaggerated; that on histological grounds (inferiority of nerve cell and fibre supply) it could not be held to share the functional importance of the better developed frontal cortex placed further back; and he expressly declared that "although it may have a future in front of it, at present its evolution, both structural and

functional, is incomplete." Dr. J. Shaw Bolton, however, has combated these views, basing his reasoning also on the results of minute histological investigation. He has shown that the prefrontal is the last region of the cerebrum to be evolved, and the first to undergo dissolution in mental decadence. He has apparently demonstrated that it is the chief focus of the subevolution and dissolution of the cerebrum occurring in amentia and dementia, conditions the characteristics of which are decrease, instability, and loss of voluntary control over the processes of cerebral association. The admirable quality of the investigations of such histologists as Campbell and Bolton renders the contradiction of their results the more difficult to explain, so that it is desirable to turn to other evidence for a solution of the problem. There is undoubtedly a persistent, if scarcely justifiable, tendency on the part of physicians to associate intellectual activity with this prefrontal region, a tendency strengthened by a consideration of some recorded cases of frontal tumour that have closely simulated general paralysis. But it must be stated clearly that the experience of the neurologist is, on the whole, definitely against the occurrence of recognisable mental symptoms as characteristic and pathognomonic of tumours of the prefrontal region. Dr. Newmark's experience bears out that of others who are in a position to affirm that "operative interference in this region entails no mental deterioration." That peculiar and well-recognised form of mental change known as "Witzelsucht" or "moria," in which the patient exhibits a sort of fatuous jocularity out of proportion with the gravity of his condition, is not of itself characteristic of prefrontal disease, though not infrequently noted in frontal cases. Dr. Newmark bases his diagnoses on such physical signs as the loss of the sense of smell, local tenderness on pressure over the bone, and earlier and more severe involvement of the optic disc on the affected side. Yet it is the view of many who are in a position to judge that no one of these signs is by itself sufficient. In fact, it may be said that our real knowledge of the exact function or functions of the prefrontal and frontal regions is still in an unsatisfactory condition.

YELLOW FEVER AND INFECTED SHIPS.

THE question of how yellow fever infection may be conveyed from one country to another by means of shipping is one of serious importance to all maritime nations having trade with tropical countries in which the disease is endemic. At the last International Sanitary Congress held at Paris it was agreed by the delegates that a ship can only be regarded as infected from the yellow fever point of view if along with the presence of stegomyiæ an actual case of the disease has occurred on the ship. Some experts of experience maintain, on the other hand, that the occurrence of the malady on board a vessel is not necessary to render it infected, and that from the practical standpoint a ship is dangerous if the insect transmitters of the disease have come on board at an infected port, and have not been destroyed by some effective process of fumigation, even if no person on the vessel is suffering from yellow fever. It is admitted that the disease has at times broken out on board a ship which has been subjected to repeated fumigation. Attention has recently been drawn to this subject by an editorial in the last issued quarterly number of the *Yellow Fever Bureau Bulletin* (vol. iii., No. 1), in which is also published a short but interesting note by Dr. Juan Guiteras, director of public health in the island of Cuba. This note relates to the occurrence of three cases of yellow fever on the s.s. *Hydra* bound from the Brazilian port of Manaos to Havannah. This vessel while loading at Manaos, a port on the River Amazon, notorious for the number of cases of yellow fever reported there annually, had two of its crew attacked by the disease, one patient dying and the other being left behind in hospital. Four days before sailing the port authorities fumigated the vessel to destroy mosquitoes and 24 hours before sailing the process was repeated at the request of the master of the ship. She sailed from Manaos on June 17th, 1913, calling at Para on the 21st and reaching St. Lucia on the 27th. As the *Hydra* had come from an infected port she was again fumigated according to the regulations. On June 27th the mate complained of illness, but this was not regarded as due to yellow fever infection. On June 30th the vessel arrived at Guantanamo, in Cuba, and reported that the steward had fallen ill on the previous day; his attack was at the time ascribed to malaria, but he grew worse and died on July 5th, the ship having sailed on the previous day for Cienfuegos, where she arrived on July 8th. But meanwhile the boatswain was attacked on July 3rd and died on the 6th. The ship was fumigated for the fourth time at the quarantine station of Cienfuegos and left for Havannah on July 11th, arriving there the same day. The captain of the *Hydra* was attacked by yellow fever at Havannah on July 14th—that is, three days after his arrival. Thus it appears that between June 13th and July 9th this ship was fumigated four times, but notwithstanding this three cases of yellow fever, all ship's officers, occurred on board, and two of them died. The first of these cases was attacked, apparently, 12 days after leaving Manaos. Dr. Guiteras suggests that the respective attacks followed the opening of the holds for the landing of cargo at the ports of call, and that this afforded opportunity for the ship's officers to be bitten by any of the infected stegomyiæ which had escaped destruction by the poisonous vapours of the fumigation. This escape was probably due to the mosquitoes seeking refuge in holes or crevices to which the fumes did not penetrate. It is not improbable that persons employed at the ports of call to unload cargo might also have been bitten by these mosquitoes, and a local focus of the infection might have developed on shore. There appears to be some reason for thinking that possibly the routine fumigations performed at certain ports are not effective and that perhaps it is not so easy after all to destroy stegomyiæ completely on a ship which has its cargo *in situ* at the time of fumigation.

Dr. H. H. Tooth, Dr. Risien Russell, Dr. J. S. Collier, and Dr. S. A. K. Wilson have been elected corresponding foreign members of the Société de Neurologie of Paris.

ROYAL MEDICAL BENEVOLENT FUND GUILD.—The annual general meeting of the guild will be held on Tuesday, March 3rd, at University College Hospital Medical School, Gower-street, W.C., at 3 P.M., the Viscountess Bryce in the chair. The business includes presentation of the annual report and election of the executive committee. The hospital will be open to members of the guild and their friends by the kind permission of the general committee.

MEDICINE AND THE LAW.

Dean v. *Rubian Art Pottery, Limited.*

IN a recent appeal from the judge of the Staffordshire county court some interesting points were raised with regard to the liability of employers under the Workmen's Compensation Act in cases of industrial poisoning. Dean, a potter, had worked in March and April, 1913, for the Rubian Art Pottery, Limited, in a process in which lead was used, and he died from lead poisoning on May 15th. The employers mentioned, when a claim was made against them by the dependents, added as respondents previous employers for whom the deceased had worked in lead processes more than 12 months before his death. When in the service of these Dean had apparently contracted lead poisoning, and there appears to have been no doubt that he suffered from it for some time and that it hastened his death. The county court judge had held that there was no evidence that the death had been accelerated by the employment by the Rubian Art Pottery Company, and that the employment by the additional respondents had been more than 12 months before death, so that neither was liable. The dependents appealed and the Court of Appeal upheld in effect the decision of the county court judge, holding in particular that there was nothing in the Workmen's Compensation Act, 1906, Section 8, under which the claim was made, to exempt the claimant from proving that in fact the "accident" arose out of and in the course of the employment; and also that April 19th (the last date of working for the respondents) was not "at or immediately before" May 15th, the date of death, so as to raise a presumption in the applicants' favour.

Bailey v. *The Insurance Section of the Coöperative Wholesale Society, Limited.*

This was an appeal from a county court judge sitting at Leicester. The plaintiff, a member of an Approved Society, claimed sickness benefit upon a medical certificate which stated that she was "suffering from debility and unable to work." The defendants declined to pay on the ground that no specific disease was mentioned, and objected that the county court had no jurisdiction, the case being one for decision under Section 67 of the National Insurance Act. The plaintiff claimed that the decision in Heard *v.* Pickthorne was in her favour on the question of jurisdiction, and the deputy county court judge, accepting this contention, tried the case and decided in the plaintiff's favour. The Divisional Court, upon appeal, were of opinion that the case was distinguishable from that of Heard *v.* Pickthorne, and that consequently the question was one to be determined according to the rules of the society and that the county court had no jurisdiction.

Keats v. *the "Weekly Budget," Limited: Keats* v. *Conolly and Others.*

In January Mr. W. J. C. Keats successfully sued the *Weekly Budget* for libel, recovering £100 damages. A second action brought by the same gentleman as plaintiff has since been tried by the Lord Chief Justice and a special jury with a similar result (£100 damages), the principal defendant being Mr. J. C. Conolly, editor of the *Dulwich, Peckham, and Camberwell Post*. Both actions arose out of comments upon the same series of acts, allegations being made to the effect that Mr. Keats inflicted brutal chastisement upon sick boys in the Camberwell Infirmary by flogging them with a whip. In the case against Mr. Conolly one of the articles complained of was headed, "Guardians; Dr. Keats's Cat-of-five-tails; Flogging Children in the Infirmary." Another was a copy of a letter which appeared in *John Bull*, and was headed "Flogging Sick Lads in an Infirmary." The articles referred in some detail to the ages of the boys chastised, and gave a highly coloured version of the nature of the chastisement, which consisted, as was not denied by Mr. Keats, in whipping them on the buttocks with five strands of moderately thick string. The whole matter had been brought before the guardians by the Countess de Lormet, a member of the board. Mr. Keats explained in his evidence that the refractory boys were not sick, but convalescent, and that their conduct to nurses and generally their refusal to yield to discipline rendered the conduct of the infirmary impossible without chastisement, which in no case was of a character that could reasonably be complained of as brutal or excessive. He pointed out that a refractory boy could be turned out of a voluntary hospital, but that this could not be done in a Poor-law infirmary. He had been recently awarded an increase of salary by the board of guardians. Corroborative evidence as to the boys' conduct and the punishment was given by a nursing sister. Mr. Keats is to be congratulated upon the successful issue of the actions forced upon him by attacks which left him no alternative but to defend his character from cruel charges. These if true would have proved him unworthy to hold his appointment, and the London and Counties Medical Protection Society, who through their solicitors, Messrs. Le Brasseur and Oakley, conducted his cases on his behalf, may also be congratulated upon the successful issues achieved. How the lady guardian who objected to Mr. Keats's action or the editor who attacked him would maintain discipline among the wilder spirits in Camberwell Infirmary by gentler means than those adopted by Mr. Keats is a matter which they may be able to explain, but to allow them to give a practical example of their methods would probably be a dangerous experiment. It must be remembered that lack of discipline among a few of the members of a ward, where some are weaker, more helpless, and more ill than they, is likely to inflict considerably more mental and physical suffering upon the majority than Mr. Keats imposed upon two or three who by their acts deserved it.

A Medical Witness's Expenses.

At the Widnes county court recently a medical man sued a solicitor for 14*s.* 6*d.* balance of a fee for services rendered. The plaintiff had given evidence in a case in which the defendant was solicitor for the successful party and had been allowed £20 for witnesses' expenses. Of this sum the defendant had paid 10*s.* to the plaintiff, and denied all further liability for the balance, which included railway fares. His honour found that there had been some undertaking to pay and that the medical man was entitled to a reasonable fee. He awarded him 10*s.* 6*d.* in addition to the 10*s.* already paid.

Soda and Milk.

A curious point was raised and may lead to an appeal in a case in which a confectioner was summoned at Bow-street police court for refusing to sell for analysis a sample of milk exposed for sale in his shop. It was stated that it has become

a custom for confectioners to sell soda and milk, and to refuse to sell milk when asked for it. In the case in question a jug was on the counter labeled "Pure milk," but the manager declined to sell any. The summons was dismissed, but it was intimated by Mr. Rotton, who prosecuted, that the prosecutors, the Westminster City Council, might appeal upon the point of law involved. It is clearly desirable that they should do so if they are advised that they have a prospect of success. As Mr. Rotton submitted to the magistrate, the duty of milk inspection will be difficult to carry out efficiently if a defendant can prevent a sample from being taken in the manner described. There was nothing in this instance to show that sales were not genuinely confined to milk diluted with soda-water, but even in that case the customer should be protected against adulterated milk being used. In the case of those who sell milk without soda-water, it should not be possible for them to prevent its purity from being tested by alleging a trade in "milk and soda."

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS.

THE New York Association for Improving the Condition of the Poor began nearly two years ago a most interesting experiment in the treatment of tuberculosis among the poor, and now issues a valuable report upon the progress of the essay and the lessons of the first completed year of working.

An investigation made some time ago by the association, which is entirely philanthropic in constitution, showed that 55 per cent. of the widows receiving assistance from the association were widows because the bread-winner had died from tuberculosis. To relieve the poverty and disease of such families a scheme was planned which resulted in the establishment of what is termed a "home hospital"—in other words, a block of workmen's dwellings was hired and filled with families one or more members of which were tuberculous. A woman superintendent was installed and physicians visited regularly. Hygiene was rigorously attended to, the children were provided with a roof playground, and the tuberculous members of the families received adequate treatment. Let it be added that the experiment was not designed to supplant sanatorium treatment, but to ascertain whether it was possible in a crowded city to check the spread of tuberculosis. The waiting lists of such sanatoriums as are available for the poor of New York are so over-full that for thousands of tuberculous poor spreading contagion in dark and dirty tenements it was felt that it was a case of home treatment or nothing. The agencies already in operation—dispensaries, hospitals, and clinics of various kinds—were concerned with individual cases rather than with families of which there were tuberculous members. These agencies there was no intention to supplant; the field was found to be so large that the association felt able to supplement them by attending especially to the social and family side of the tuberculosis problem.

In selecting families for admission to the home hospital preference was given: first, to families in which tuberculosis and poverty were more or less incipient; secondly, to those believed to possess sufficient intelligence to coöperate in the experiment; thirdly, to those in which dependency was due to tuberculosis in the wage-earner; fourthly, to those in which tuberculosis of the mother rendered it inadvisable for family life to continue in existing conditions; and in general to poor families made dependent by tuberculosis, in which the disease was not more than moderately advanced. The care bestowed included regular physical examination of the actual patients, sputum tests, segregation of the advanced cases, outdoor life on balcony, roof, or the adjacent park, complete rest when necessary, graduated exercise, nursing, and medicines. Instruction was also given regularly in cooking, sewing, care of infants, cleanliness, hygiene, and sanitation.

The results of the first year's work were so encouraging that the association decided to extend the scale of its operations by doubling the capacity of the home hospital. The report deals fully with the statistics of that year, and the results disclosed are wonderfully good. Twenty-seven families, containing 135 individuals, were admitted. Seventy-nine of these persons were patients or suspects. No new cases developed among the non-infected members of these families, and only one death was recorded among the tuberculous. 61 per cent. of the adult patients who followed directions and were at least six months under treatment were apparently cured; in 22 per cent. the disease was arrested; and 11 per cent. were much improved. Among the children the results were also highly satisfactory; most of them were undeveloped and puny on admission, but left the home hospital healthy and strong. The cost of the experiment came to nearly £7000; and it has also to be borne in mind that much unremunerated labour was given by doctors and others; the average stay of each family was 233 days. Still, even then, the cost compares favourably with that of sanatorium treatment for the 79 tuberculous; and, in addition, the non-tuberculous members of the families were supported and saved from the ravages of the disease. When it is remembered that these results were secured in the first year of the experiment, among patients most of whom would otherwise have received no treatment, with the family unit preserved, and in the heart of New York, there seems to be good ground for believing, as the association does, that a real contribution is being made to the problem of tuberculosis combined with poverty and to the control of these two allied enemies of health in the congested districts of large urban communities.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the seventeenth meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. S. Coupland and Dr. C. Hubert Bond, Commissioners in Lunacy.

The witnesses stated that since 1876 the figures published by the Lunacy Commissioners showed that there had been a gradual rise in the recorded proportion of syphilitics admitted to asylums, but it could not be inferred that this increase denoted an increasing incidence in actual prevalence of syphilis; the increase shown in the figures might mean nothing beyond more thorough investigation and observation in respect to this particular. Throughout the whole period there has been a preponderance in the proportion of male cases in the private over that in the pauper class, and generally a similar but less markedly higher incidence in females of the pauper than in those of the private class. For the period 1908–12 the figures showed that of the male admissions 11·8 per cent. of the private cases and 8·7 per cent. of the pauper cases were syphilitics; for females the corresponding figures were 0·7 per cent. among private and 1·4 per cent. among pauper patients. Much variation in the degree of incidence appears in the inmates of different asylums, but speaking generally those institutions that receive inmates from industrial districts show higher ratios than those which deal mainly with an agricultural and rural community. About 60 per cent. of the cases known to be syphilitic admitted in the period 1908–12 were general paralytics.

At the eighteenth meeting evidence was given by Sir Thomas Barlow, Bart., K.C.V.O., President of the Royal College of Physicians of London.

Sir Thomas Barlow dealt first with the importance of congenital syphilis and its effect as a hindrance to the birth-rate and to healthy development. He described how syphilis frequently manifests itself in the offspring of a woman affected by the disease in producing first one or more miscarriages and afterwards children apparently healthy at birth, but sooner or later suffering from various affections. He stated that the life of these children at school, especially amongst the humbler classes, was most unpromising, and that many of them became perfectly useless members of society. He also drew attention to the fact that syphilitic infants are notably liable to convulsions, and that in these children the convulsions may inaugurate very serious diseases of the brain.

Sir Thomas Barlow next gave illustrations of the latency of the disease, and pointed out the importance of realising how very widespread the damage caused by congenital syphilis may be, and that causes, for which no explanation can be given, may revive manifestations of congenital syphilis in many different situations. He emphasised the importance in cases of this kind of maintaining continuous supervision of both parents and families. He considered that the ideal method of treatment and prophylaxis would be, given a syphilitic infant, that both parents should be under medical supervision and medical inspection at frequent intervals, and other children of the family born subsequently should be inspected also at frequent intervals, and that this surveillance should continue for several years.

Sir Thomas Barlow said it was very difficult to estimate whether venereal diseases were less prevalent at the present time than formerly. He thought, however, that there was a general improvement in the morality of the population, and that the higher standard obtaining ought in time to produce less prevalence of the diseases. He thought it very hopeful for any educational crusade that might arise out of the work of the Commission, as the public mind was in a state of most promising preparedness to receive admonition and to recognise the moral obligation of these things being dealt with. He was of opinion that special education or instruction on these subjects was very desirable. It might be begun possibly in the public schools, but certainly in the university period. More generally he thought that instruction should be given directly young people were sent to work. In any educational measures he would urge that medical practitioners, and if possible family doctors, should be the backbone of the organisation. Besides the family doctor he thought that for young children the person to impart knowledge was the mother. He believed that something had been done in Western Canada in the way of special teaching to women of sexual conditions, and this teaching had been of a wholesome character and had been given without any offence whatever.

Sir Thomas Barlow was not in favour of notification of venereal diseases, and it was his opinion that there was much more to hope from general enlightenment and education. Apart from education, he considered that what was required practically was the provision of facilities for effective and complete treatment in the early stages and the improvement of those facilities to the utmost. He also advocated strongly the subsidisation by the Government of pathological research.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8453 births and 5203 deaths were registered during the week ended Saturday, Feb. 21st. The annual rate of mortality in these towns, which had been 18·4, 16·5, and 15·6 per 1000 in the three preceding weeks, further declined to 15·0 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 17·0 per 1000, and coincided with the rate recorded in London during the same period. Among the several towns the death-rate last week ranged from 5·3 in Hornsey, 5·7 in Ilford, 6·2 in Southend-on-Sea, 6·6 in Eastbourne, 6·7 in Oxford, and 7·9 in Swindon, to 20·6 in Gillingham and in South Shields, 21·0 in West Bromwich, 22·3 in Exeter and in Swansea, 27·3 in Bury, and 27·5 in Burnley.

The 5203 deaths from all causes were 227 fewer than the number in the previous week, and included 397 which were referred to the principal epidemic diseases, against 375 and 401 in the two preceding weeks. Of these 397 deaths, 115 resulted from measles, 110 from whooping-cough, 70 from infantile diarrhœal diseases, 52 from diphtheria, 33 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·1, against 1·1 and 1·2 per 1000 in the two preceding weeks. The deaths attributed to measles, which had been 79, 64, and 89 in the three preceding weeks, further rose to 115 last week, and caused the highest annual death-rates of 2·3 in Nottingham, 4·8 in Barnsley, 5·2 in Burnley, and 5·6 in Swansea. The deaths referred to whooping-cough, which had steadily increased from 64 to 129 in the six preceding weeks, declined to 110 last week; the highest death-rates from this disease were 1·3 in Swansea, 1·7 in Rochdale and in Newport (Mon.), and 1·8 in Great Yarmouth and in Bury. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 93, 66, and 68 in the three preceding weeks, further rose to 70 last week, and included 27 in London and 5 in Manchester. The deaths attributed to diphtheria, which had been 85, 70, and 64 in the three preceding weeks, further fell to 52 last week, of which 21 were recorded in London and its suburban districts and 3 in Norwich. The deaths referred to scarlet fever, which had been 29, 38, and 37 in the three preceding weeks, declined to 33 last week, and included 4 in London, 4 in Liverpool, and 3 in Birmingham. The fatal cases of enteric fever, which had been 21, 21, and 14 in the three preceding weeks, rose to 17 last week, of which 5 occurred in London, 3 in Sheffield, and 2 in Birmingham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3599, 3554, and 3537 at the end of the three preceding weeks, had further declined to 3457 on Saturday last; 351 new cases were admitted during the week, against 460, 379, and 428 in the three preceding weeks. These hospitals also contained on Saturday last 1176 cases of diphtheria, 307 of whooping-cough, 93 of measles, 81 of enteric fever, and 1 of small-pox. The 1229 deaths from all causes were 22 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·2 per 1000. The deaths referred to diseases of the respiratory system, which had been 425, 347, and 262 in the three preceding weeks, further declined to 245 last week, and were 191 below the number in the corresponding week of last year.

Of the 5203 deaths from all causes in the 97 towns, 206 were attributed to various forms of violence, and 426 were the subject of coroners' inquests. The causes of 37, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, and in 68 other smaller towns. Of the 37 uncertified causes of death last week 7 were recorded in Birmingham, 5 in Liverpool, 3 in South Shields, 2 in Rotherham, and 2 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1167 births and 727 deaths were registered during the week ended Saturday, Feb. 21st. The annual rate of mortality in these towns, which had steadily declined from 20·9 to 16·9 per 1000 in the four preceding weeks, further fell to 16·5 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 19·0, against a corresponding rate of 17·0 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 10·7 in Perth, 10·8 in Hamilton, and 14·1 in Clydebank, to 23·5 in Kilmarnock, 24·2 in Coatbridge, and 30·5 in Kirkcaldy.

The 727 deaths from all causes were 16 fewer than the number in the previous week, and included 82 which were referred to the principal epidemic diseases, against 68 and 75 in the two preceding weeks. Of these 82 deaths, 42 resulted from measles, 16 from infantile diarrhœal diseases, 14 from diphtheria, 6 from scarlet fever, 3 from whooping-cough, and 1 from enteric fever, but not one from small-pox. These 82 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 1·1 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 48, 34, and 41 in the three preceding weeks, were 42 last week, of which 25 occurred in Glasgow, 10 in Edinburgh, and 2 in Paisley. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 12, 7, and 8 in the three preceding weeks, rose to 16 last week, and included 6 in Glasgow, 3 in Dundee, 2 in Coatbridge, and 2 in Hamilton. The fatal cases of diphtheria, which had been 14, 15, and 12 in the three preceding weeks, rose to 14 last week, and included 4 in Glasgow, 4 in Dundee, and 4 in Aberdeen. The deaths attributed to scarlet fever, which had been 10, 6, and 7 in the three preceding weeks, were 6 last week, of which 2 occurred in Glasgow and 2 in Kirkcaldy. The deaths referred to whooping-cough, which had averaged 6 in the earlier weeks of the quarter, declined to 3 last week, which were recorded in Glasgow, Coatbridge, and Kirkcaldy respectively. The fatal case of enteric fever was registered in Aberdeen.

The deaths referred to diseases of the respiratory system, which had steadily declined from 230 to 147 in the five preceding weeks, slightly fell to 143 in the week under notice 22 deaths were attributed to various forms of violence, against 33 and 30 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 622 births and 441 deaths were registered during the week ended Saturday, Feb. 21st. The annual

rate of mortality in these towns, which had been 24·0, 21·9, and 18·9 per 1000 in the three preceding weeks, rose to 19·1 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these Irish towns averaged 22·1 per 1000; in the 97 large English towns the corresponding rate did not exceed 17·0, while in the 16 Scotch towns it was equal to 19·0 per 1000. The annual death-rate last week was equal to 20·7 in Dublin (against 14·2 in London and 15·6 in Glasgow), 18·8 in Belfast, 19·0 in Cork, 10·1 in Londonderry, 23·0 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 17·8 per 1000.

The 441 deaths from all causes were 4 in excess of the number in the previous week, and included 26 which were referred to the principal epidemic diseases, against 37 and 35 in the two preceding weeks. Of these 26 deaths, 10 resulted from infantile diarrhœal diseases, 6 from whooping-cough, 4 from diphtheria, 3 from measles, and 3 from scarlet fever, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases last week did not exceed 1·1 per 1000, which coincided with that in the 97 large English towns, while in the 16 Scotch towns the corresponding rate reached 1·9 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 6, 7, and 8 in the three preceding weeks, further rose to 10 last week, of which 4 were recorded in Dublin and 2 in Tralee. The deaths referred to whooping-cough, which had been 7, 6, and 9 in the three preceding weeks, fell to 6 last week, and included 3 in Dublin. The 4 fatal cases of diphtheria, 2 of which occurred in Belfast, were slightly in excess of the average in the earlier weeks of the quarter. The deaths attributed to scarlet fever, which had been 5, 10, and 9 in the three preceding weeks, declined to 3 last week, and were recorded in Belfast, Cork, and Limerick respectively. The deaths referred to measles, which had averaged 6 in the earlier weeks of the quarter, fell to 3 last week and were all registered in Dublin.

The deatns referred to diseases of the respiratory system, which had been 157, 132, and 99 in the three preceding weeks, further fell to 91 in the week under notice. Of the 441 deaths from all causes, 129, or 29 per cent., occurred in public institutions, and 8 resulted from various forms of violence. The causes of 17, or 3·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Morris Charles Langford has been placed on the Retired List at his own request (dated Feb. 19th, 1914).

The following appointments have been notified:—Staff-Surgeons: A. A. Forrester to the *Implacable*; L. F. Cope to the *Victory*, for R.N. Barracks, temporary; and L. Warren to the *Halcyon*, additional, for the *Speedy*, on recommissioning. Surgeon: A. B. Clark to the *Halcyon*, additional, for the *Seagull*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel William Turner is placed on retired pay (dated Feb. 25th, 1914).

Major Samuel H. Withers to be Lieutenant-Colonel, vice W. Turner (dated Feb. 25th, 1914).

The undermentioned to be Lieutenants (on probation) (dated Jan. 30th, 1914):—Lieutenant Treffry Owen Thompson, from the Royal Army Medical Corps Special Reserve; Stanley James Linzell, Lewis Rudall Shore, John Galbraith Gill, John William Cotter Stubbs, Sidney Martin Hattersley, David Wylie Rintoul, and Allan Watson; Lieutenant Norman Veitch Lothian, from the Royal Army Medical Corps Special Reserve; Thomas Francis Pennefather Breen; Lieutenant John FitzGerald Gwynne, from the 3rd West Riding Field Ambulance, Royal Army Medical Corps (Territorial Force); and Arthur John Alexander Menzies.

The undermentioned Lieutenants are seconded under the provisions of Article 343 Royal Warrant for Pay and Promotion, 1913:—Bernard Woodhouse (dated Jan. 1st, 1914); Treffry O. Thompson, Stanley J. Linzell, and Lewis R. Shore (dated Jan. 30th, 1914).

Colonel C. E. Nichol, D.S.O., has been selected for appointment as Assistant Director of Medical Services to the Jubbulpore and Jhansi Brigades, vice Colonel T. J. R. Lucas, retired. Colonel W. W. Pike, D.S.O., has been selected for appointment as Assistant Director of Medical Services to the Abbottabad and Sialkot Brigades, vice Colonel R. Kirkpatrick, C.M.G.

Lieutenant-Colonel C. Cooper Reilly, in charge of the Military Hospital at Calcutta, has been granted six months' general leave of absence home from India. Lieutenant-Colonel W. Turner has been selected for appointment as Deputy Assistant Director of Medical Services to the Welsh Division, vice Lieutenant-Colonel C. A. Young, whose tenure will expire on April 1st. Lieutenant-Colonel H. Cree has taken over charge of the Military Hospital at Sialkot. Lieutenant-Colonel H. J. Fletcher has been granted six months' general leave of absence home from India. Lieutenant-Colonel G. G. Adams has been appointed to officiate as Assistant Director of Medical Services to the Secunderabad Brigade. Lieutenant-Colonel R. Holyoake has been appointed Senior Medical Officer on board the transport s.s. *Plassy*, which left Southampton for Bombay on Feb. 20th.

Major H. E. J. A. Howley, in charge of the Military Hospital at Dinapore Cantonment, has been granted six months' general leave of absence home from India. Major J. T. Johnson has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary) to the Eighth (Lucknow) Division. Major L. L. G. Thorpe has taken up duty in Madras Presidency. Major C. J. O'Gorman, D.S.O., has been appointed to hold charge of the civil medical duties of the Barrackpore Division, vice Lieutenant-Colonel F. J. Morgan, placed under orders to proceed to join the Home Establishment. Major C. E. Pollock has embarked for a tour of duty in the Sierra Leone Protectorate. Major P. S. Lelean, specialist sanitary officer to the North of Thames Area of the Eastern Command, has been selected for appointment as Assistant Professor of Military Hygiene at the Royal Army Medical College, vice Major H. B. Fawcus. Major H. K. Palmer, on arrival home from India, tour expired, has been appointed to the Military Hospital at Cosham. Major H. S. Roch has arrived home on leave of absence from the Military Hospital at Pretoria. Major J. Poe has taken up duty at the Military Hospital at Shorncliffe. Major B. Watts has been appointed to the London District on arrival home from Meerut Cantonment. Major S. de C. O'Grady has been transferred to the Aldershot Command from the Tower of London. Major H. Herrick has been appointed to hold charge of the Military Hospital at Holywood on return home from Naini Tal Cantonment. Major M. MacG. Rattray has been transferred from the Military Hospital at Brighton to Shorncliffe. Major A. D. Waring has taken up duty at Gosport. Major J. Matthews has been appointed to hold charge of the Military Hospital at Sheffield.

Captain W. W. Browne has been appointed Specialist in the Prevention of Disease to the Ahmednagar Brigade and placed in charge of the Bacteriological Research Laboratory at Headquarters, Ahmednagar Cantonment. Captain L. Cotterill has taken up duty in India on transfer from the Aldershot Command. Captain H. St. M. Carter has taken up duty in the Aldershot Command. Captain H. M. J. Perry, specialist in bacteriology to the Devonport District, has been transferred to the London District, and appointed for duty at the Military Hospital, Rochester-row. Captain R. E. Humfrey has relinquished duty at Queenstown, and embarked for a tour of service in India. Captain M. B. H. Ritchie has arrived home for duty from the Military Hospital at Mhow Cantonment. Captain M. J. Cromie has been transferred from Maidstone to the Military Hospital at Chatham. Captain L. G. Gibson has been appointed for duty on board the transport s.s. *Rohilla* leaving Karachi for Southampton on March 19th with tour-expired troops and invalids. Captain A. C. Amy, who has arrived home for duty from the Military Hospital at Agra Cantonment, tour expired, has been appointed to the Western Command. Captain W. Mitchell has been transferred from the Military Hospital at Subathu to Ambala Cantonment. Captain J. R. Foster has been transferred to the Home Establishment from India. Captain F. Casement has been appointed Specialist in Dermatology and Venereal Diseases to the Eighth (Lucknow) Division. Captain M. J. Lochrin has arrived home for duty from Bangalore Cantonment, tour expired. Captain E. B. Lathbury has been transferred from the Military Hospital at Ranikhet to Bareilly Cantonment. Captain F. C. Lambert has embarked for a tour of service in India. Captain E. C. Phelan has taken up duty at Barrackpore. Captain R. G. H. Tate, on arrival home from the Military Hospital at Lahore, has been appointed to the Irish Command. Captain G. F. Dawson has been appointed Specialist in Electrical Science and Radiography to the Seventh (Meerut) Division. Captain C. H. Denyer has been transferred from the Military Hospital at Landoor to Agra Cantonment. Captain T. H. Scott has been appointed to the Northern Command. Captain A. W. Howlett has joined the Aldershot Command. Captain F. J. Stuart has been appointed Specialist in Dermatology and Venereal Diseases to the Seventh (Meerut) Division. Captain R. D. O'Connor has been transferred from the Military Hospital at Murree to Multan Cantonment. Captain E. M. Middleton has been appointed to the Eastern Command. Captain A. Shepperd has been transferred from the Military Hospital at Agra Cantonment to Burma for a tour of duty at Maymyo.

Lieutenant C. D. K. Seaver has been transferred from the Military Hospital at Dalhousie to Jullundur Cantonment. The following Lieutenants have embarked for a tour of service in India: C. M. Ingoldby, S. J. Higgins, G. A. Blake, L. Dunbar, H. E. Panton, R. Davidson, and A. G. Biggam. Lieutenant W. B. Laird has been appointed to the Military Hospital at Bangalore Cantonment. Lieutenant H. J. G. Wells has embarked for a tour of service in India. Lieutenant E. C. Deane has been appointed to the Military Hospital at Lucknow Cantonment.

An examination for 12 or more commissions in the Royal Army Medical Corps will be held on July 29th. Applications to compete should be made to the Secretary, War Office, not later than nine days before the examination.

INDIAN MEDICAL SERVICE.

Colonel H. Hendley, Deputy Director of Medical Services to His Majesty's Forces in India, has been granted leave of absence home for seven months.

The services of Colonel R. W. S. Lyons have been placed temporarily at the disposal of the Government of Bombay Presidency. Colonel T. Grainger, C.B., has taken up duty as Assistant Director of Medical Services to the Fifth (Mhow) Division of the Southern Army in India. Colonel C. J. Bamber, M.V.O., Inspector-General of Civil Hospitals in the Punjab, has joined at Lahore.

Lieutenant-Colonel and Brevet Colonel B. Seton, Deputy Director-General, has been granted leave of absence home from India. Lieutenant-Colonel R. H. Elliott has been granted an extension of leave of absence home from India on medical certificate for six months. The services of Lieutenant-Colonel E. Jennings, on his return from leave of absence, have been replaced at the disposal of the Commander-in-Chief in India. Lieutenant-Colonel T. E. Dyson has been appointed to officiate as Assistant Director of Medical Services to the Bangalore and Southern Brigades. Lieutenant-Colonel W. H. B. Robinson, Bombay Presidency, has taken up duty as Chief Medical Officer in Rajputana State. Lieutenant-Colonel P. C. H. Strickland has been appointed Superintendent of the Central Prison at Allahabad, and to hold officiating medical charge of the 121st Regiment of Pioneers.

Major J. McPherson has arrived home on leave of absence from India. Major E. E. Waters has been appointed to officiate as Civil Surgeon at Howrah during the absence on leave of Lieutenant-Colonel A. H. Nott. Major A. E. J. Lister has been appointed Professor of Physiology on the staff of King George's Medical College at Lucknow. Major S. P. James, Assistant Director-General Sanitary Branch, has been granted nine months' general leave of absence home from India. Major W. F. Harvey, director of the Central Research Institute at Kasauli Cantonment, has been granted furlough combined with leave of absence home from India for a total period of two years. Major R. E. Lloyd, professor of biology at the Medical College, Calcutta, has been confirmed in that appointment.

Captain S. H. L. Abbott has been appointed to officiate as Superintendent of the Jail at Ferozepore. Captain R. J. Bradley has taken over medical charge of the 1st Gurkha Regiment. Captain J. W. H. Babington has been transferred from Rawal Pindi to Madras Presidency for temporary duty in the Civil Medical Department. Captain G. T. Burke has arrived home on leave of absence from India. Captain J. W. H. Robinson has been temporarily appointed to the Civil Medical Department in Madras Presidency. Captain E. S. Phipson has been appointed for temporary duty in the Sanitary Department of the Government of Burma. Captain G. McG. Millar has arrived home on leave of absence from India.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Rowland B. Campion is confirmed in his rank.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd Highland Field Ambulance, Royal Army Medical Corps: Alastair Robertson Grant to be Lieutenant (dated Jan. 28th, 1914).

1st Home Counties Field Ambulance, Royal Army Medical Corps: Charles Killick to be Lieutenant (dated Feb. 21st, 1914).

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Captain William F. Munro ceases to serve with No. 18 Field Ambulance, Royal Army Medical Corps, Special Reserve, and is restored to the establishment (dated Feb. 21st, 1914).

2nd South Midland Field Ambulance, Royal Army Medical Corps: Major George W. Craig to be Lieutenant-Colonel (dated Oct. 1st, 1914).

3rd Southern General Hospital, Royal Army Medical Corps: Philip Edward Homer Adams to be Captain, whose services will be available on mobilisation (dated Jan. 1st, 1914).

1st Western General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Nathan Raw, whose retirement was announced in the *London Gazette* of August 19th, 1913, is granted permission to retain his rank and to wear the prescribed uniform.

Attached to Units other than Medical Units.—Lieutenant John Goss resigns his commission (dated Feb. 21st, 1914).

Supernumerary for Service with the Officers Training Corps.—Lieutenant Andrew F. Dixon (serving with the Dublin University Contingent, Senior Division, Officers Training Corps) resigns his commission (dated Jan. 29th, 1914).

DEATHS IN THE SERVICES.

Fleet-Surgeon Alfred Hutton Jeremy, R.N., of the *Impregnable*, recently in London. He entered the Navy in 1893, and was promoted to the rank of staff-surgeon in 1901. He was staff-surgeon of the *Fox* during the Hodeida and Henjam incidents, 1905 and 1906.

MEDICAL INSPECTION OF SCHOOL CHILDREN.—In reply to a recent deputation from the Parliamentary committee of the last Trade Union Congress, the President of the Board of Education declared that he had made every effort to obtain an adequate grant from the State for the medical inspection of school children. His department was bringing pressure to bear upon local authorities in order to secure that every child was inspected medically at least thrice during the school period, and that where necessary nspection was followed by treatment.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—This society held its annual dinner at Hotel Great Central on Feb. 19th. The chair was occupied by Dr. F. S. Palmer, who was supported, besides those whose names occur below, by Sir David Ferrier, Dr. Phineas Abraham, and Professor T. B. Hyslop. Mr. Bishop Harman, in proposing the toast of "The Imperial Forces," paid a cordial tribute to the work done by the forces in South Africa, and gave many interesting details of what he had himself observed there. Sir James Porter, responding for the Navy, deprecated the pessimism of old gentlemen who wandered about clubland complaining that the service was going to the dogs. Colonel Edmund M. Wilson, replying for the military forces, urged the popularisation of the army, the inculcation of the idea that it was not only an obligation but an honour for every able-bodied man to render some service to his country. The medical profession, he said, could do this, for it had led the way: the medical part of the Territorial service was full and up to date. The President, in proposing "The Society," said that it owed its origin largely to the late Mr. C. B. Keetley, of whom he spoke feelingly. Of the 145 original members of the West London Medico-Chirurgical Society 29 were still living and several were present. There were now 575 members, and their meetings showed an average attendance of 42. He expressed their pleasure at having the coming Cavendish lecturer with them. Colonel T. H. Hendley, in reply, spoke of the extent to which service men joined the society and availed themselves of the opportunities afforded them by the West London Hospital. The event of the evening was the presentation by the President to Professor Arthur Keith of the society's triennial gold medal, which had been established by Dr. Phineas Abraham. He spoke of Professor Keith's career, scientific achievements, and modesty, and then presented the medal in recognition of Professor Keith's valuable services to science and to the profession of medicine. Professor Keith, in responding, modestly deprecated any special claim to the honour. It was his great good fortune to be called first not to a university but to a large medical school—the London Hospital—where he learnt to realise the danger of anatomy and medicine turning their backs upon one another. It had been his endeavour to make anatomy useful to its practical application in medicine. Dr. Charles Buttar then proposed the toast of the guests, coupling with it the names of Sir Francis Champneys, President of the Royal Society of Medicine, and Dr. F. W. Mott, their Cavendish lecturer for 1914. Sir Francis Champneys, in replying, spoke of the satisfactory progress of the Royal Society of Medicine, and Dr. Mott caused great amusement by referring to Professor Keith's struggles over the Piltdown skull, and reminding his hearers of what happened, according to Bret Harte, in an immortal discussion on prehistoric remains. The proceedings terminated with the toast of "The Chairman," proposed by Dr. F. de Havilland Hall.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 568.*)

XXXVIII.—LONDON: THE PERSISTENCE OF DISLIKE TO THE ACT.

WE have seen that at first the London medical men who would not go on the panel were for the most part isolated, unorganised, helpless. What with the divided attitude of the British Medical Association and the admittance of panel doctors into the National Medical Guild, this feeling of hopelessness was somewhat intensified. In the provinces there was a better show of organisation in those places where any effective opposition was taking place, and we have seen that in Edinburgh the Scottish Medical Guild was emphatically opposed to the contract system and to the Act.

The National Medical Union.

The opinion grew stronger and stronger that for the purpose of organisation the members of an association must be all of the same opinion. Even if it be a trade union, all the members must be either for or against the panel.

All this led up to the formation of an association, which was ultimately called the National Medical Union. The first object was to group together the small local London societies and then federate them with all similar bodies existing in other parts of the kingdom. This was finally achieved at a representative meeting held at the Waldorf Hotel on Nov. 31st, 1913. The national character of the new organisation was illustrated by the fact that Professor William Russell, of Edinburgh, and Mr. G. A. Wright, of Manchester, were elected presidents, and Dr. John Playfair, president of the Edinburgh Medical Guild, was elected vice-president. For secretaries Dr. R. Carswell, of Wandsworth, and Mr. E. Arthur Dorrell, secretary of the London Medical Committee, were chosen.

The various organisations within the National Medical Union retain their individuality but are federated together under a common board of management. To this central or national body each member must pay a guinea per annum, and he further subscribes to his local group whatever may be needed, though this does not often amount to more than 5*s.* a year. A preliminary official statement of the objects and policy of the union has been issued and already published; but for the sake of sequence it may be useful to repeat it here. The object of the National Medical Union is:—

1. To maintain the freedom of the medical profession in its professional and personal relations with the public.
2. To support the public in maintaining a corresponding freedom, and to safeguard the national health.
3. To oppose the present arrangements for medical benefits under the National Insurance Acts, and to decline professional service under such arrangements.
4. To preserve an independent attitude with regard to party politics.

Such, briefly and officially, is the policy of the National Medical Union, and it has been growing in strength ever since its foundation. At first it had about 1000 members in the metropolitan area, including both general practitioners and consultants. To-day the membership has increased considerably, defections having taken place both from the National Medical Guild and the British Medical Association. Permanent offices have been taken at the *Morning Post* buildings, 346, Strand.

It is felt that, being organised, the non-panel associations will be able to make themselves heard when the time for a change in the working of the Act is at hand.

Future Developments.

It may seem strange that there should have been so many associations formed in about 12 months. The experienced organiser or student of public movements will be little surprised. A mass of persons taken as a whole, like, for instance, the medical profession, cannot be simultaneously moved by one single set of rules and principles. No one really knows what programme will prove acceptable to a working majority till some practical test has been applied. Then there are always two sorts of approval: the tacit approval and the assent that will be backed by action followed even by self-sacrifice. The former is only of service when there is no difficulty or serious opposition. Therefore, when a movement commences many committees and many organisations are started, rules proposed, and programmes prepared. Then ensues a struggle for existence resulting in the survival, not perhaps of the best, but of that which fits best the imperfections of the people for whom it is intended. Many alterations take place before experience shows what is most practical.

We have seen that when in the midst of the London Medical Committee the idea germinated that the best road to effective action would be the formation of a real trade union the National Medical Guild came into existence. But quite early in the life of the guild it was found necessary to admit practitioners who were working upon panels under the Act, for otherwise the guild could not be considered to represent the entire profession, which for a trade union would be ridiculous; and then the secretary of the guild himself went on a panel, I am informed. The end and aim of a trade union is to defend the trade interests of its members, and its business is to support or combat any particular Act of Parliament according to the manner those trade interests are affected. In this case the interests are professional and not trade interests, but the methods of attack and defence would be identically the same. When, however, both supporting and opposed to the formation of panels were represented on the guild, the possibility of united action was lost. I cannot see in a trade union the chances of united strength that are necessary.

Victims of Resistance.

Many stories are told of the suffering, the poverty voluntarily endured, rather than submission to what it was imagined would degrade the profession. Thus I heard, in the south-west of London, of a Scotsman, born and bred in the best traditions of the profession, who looked upon his work as a sacred ministry; when asked if he was going on the panel he was amazed beyond measure, exclaiming, "Man, it would be impossible to go on the panel." He felt that the profession had been "kicked on to the panel." If it was a case of "go on or starve," with great dignity he declared his readiness to starve. Many medical men thought they were rightly or wrongly forced into a contract which they had had but very little to say in preparing. They felt they were being ignominiously forced on the panel, and to go on the panel was to give way to compulsion. At Paddington an old-established

practitioner, 60 years of age, declared that he could not do panel work. It might suit younger men, he said, but he would not undertake it. "A squatter," as he was resentfully described to me, came with an assistant and took a house immediately opposite. In a short time the servants, the shop assistants, and other insured persons went to the new-comer, who was on the panel. The old-established practitioner found his income so reduced that he had to dismiss his servants, rely on his daughters for the domestic work, and take a much smaller house. In Wandsworth there was a case of a practitioner whose patients were nearly all insured persons. But he had signed the pledge not to serve on the panel, so he refused to profit by a rich harvest, and nearly all his patients were taken from him. His loss was so heavy that it was proposed to raise a local fund, but he refused any such assistance. He declared that he had acted on principle, and was prepared to pay the cost. This story ended in tragedy. He had an attack of influenza, which should have been treated by rest, but he did not dare neglect the few patients he had remaining. Therefore he worked through his illness till he reached a point of exhaustion that was so severe that he died. This is a true story. The case will be recognised by many of my readers, and proves beyond all fear of contradiction the genuine dislike of the Act displayed by some medical men and still felt by them.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

The University of Liverpool.

THE council at their last meeting appointed Dr. Warrington Yorke to the Walter Myers chair of parasitology, the chair established by the Liverpool School of Tropical Medicine in memory of Dr. Walter Myers, a former member of the staff, who lost his life on one of the expeditions organised by the school. Dr. Yorke is a Liverpool student, and had a distinguished scholastic career. During the last eight years he has been engaged in research in tropical medicine, and has served on an expedition to Nyasaland studying blackwater fever. Since the year 1909 he has served as director of the Runcorn Research Laboratory. At the same meeting Dr. W. Permewan was appointed to the lectureship in laryngology in succession to Dr. J. Middlemas Hunt. For some years Dr. Permewan has been in charge of the Department of Laryngology at the Royal Southern Hospital.

Royal Southern Hospital.

At the annual meeting of the trustees and subscribers of the Royal Southern Hospital, which was recently held with the Lord Mayor, Mr. H. R. Rathbone, in the chair, the annual report recorded a good year's work, 2957 in-patients receiving treatment, as against 2740 in the previous year. As regards out-patients, the effect of the National Insurance Act had been to reduce somewhat the attendances of trivial cases, for these had been referred, after the first treatment, to panel doctors. Notwithstanding heavy reductions in the income from annual subscriptions, donations, and the Hospital Saturday and Sunday Fund contributions, which, taken collectively, showed a diminution of £592 18*s.*, it was recorded with satisfaction that the ordinary income was in excess of the previous year by £158 17*s.* Against this small increase of income, however, there was a rise in the ordinary expenditure of £564 10*s.* This ever-increasing working deficit is causing the committee much alarm, and if the work and efficiency of the hospital are to be maintained it will be necessary for the public, especially the working classes who receive its benefits, to realise that this can only be done by increased support. The debt due to the bankers, it appeared from the report, had been increased during the year by £2249 6*s.* 5*d.* and on Dec. 31st last the sum owing was £6967 1*s.* 1*d.* The Lord Mayor, in moving the adoption of the report and accounts, referred to the very serious position in which that charity and others of a similar character in this city were placed at the present time. In almost every instance expenditure had gone up very seriously, and in nearly every case the income had been diminished. It showed that the support of the general public was not at all commensurate with the increased liabilities and increased demands for assistance from these charitable institutions. He was struck on examining the lists of subscribers to these institutions to find that the same names appeared again and again. They were composed of a comparatively small number of people, and he did not think it would be reasonable to expect these generous subscribers to increase the amount of their contributions. How were others to be approached? He would be willing to assist the medical charities of Liverpool by making a collective appeal to those who did not at present figure in the lists; but he thought it would be advisable to follow the matter up with personal applications. For this purpose he thought it would be well to have a subcommittee of each trade, profession, or business in the city who would know the men to whom they could apply with reasonable hope of success. He could not think that those who had not given had done so from a deliberate hard-heartedness or selfishness. If they were definitely asked to assist those who were in distress and suffering from sickness and unable to provide the medical relief they required for themselves, they would be willing probably to give every year a sum which, if it were given by every member of the community, would put the hospitals in a very different position from that which they had at present to report each year. He was having prepared a report of those who at present subscribed, and when he had it ready he would be able to indicate where the gap lay. Mr. Thomas Woodsend, the president of the hospital, seconded the adoption of the report, and thanked the Lord Mayor for his suggestions.

Foot and Mouth Disease.

During the last ten days an outbreak of foot and mouth disease has occurred in the lairage at Birkenhead, bringing business to a standstill at the Birkenhead and Wallasey lairages. On Feb. 23rd animals were discovered suffering from the disease in a shippon in Liverpool. Only two animals were affected, but all the animals at the infected shippon —32 in number—were ordered to be at once destroyed.

Feb. 24th.

MANCHESTER.

Noisy Schools and Physique of School Children.

THE Manchester and Salford District Education Association at its recent meeting in Manchester discussed some important directions in which school life in Manchester might be improved. One speaker pointed out the noisiness of Manchester streets generally, and suggested that around all buildings of a public character, such as churches, libraries, hospitals, and schools, silent pavements should be laid. In one district in Moss Side it appears that between 9 and 10 A.M. 120 cars go rattling and clanging past one school, in addition to miscellaneous traffic. While casement windows lessen the noise, they obstruct light, hinder ventilation, and make the school unhealthy. Of the 123,000 scholars in Manchester Mr. J. M. MacLachlan said that fully one-half were in a defective bodily state through one cause or another. In 1912 there were 1300 cases of anæmia, 600 of rickets, 6500 of malnutrition—i.e., 1 in every 20 children, 2600 cases of defective sight or external diseases of the eye, 560 of ear disease, 693 of defective hearing, many thousand cases of skin disease keeping the children from school, and 4800 cases of enlarged tonsils, adenoids, or glands. There were 6000 children with six or more carious teeth. A resolution was passed urging the city council to replace setts paving by wooden blocks or some other approved form of silent pavement alongside school buildings, beginning at once in respect of 16 schools in the noisiest parts of the city.

Tuberculosis Scheme for the County of Cheshire.

The Cheshire county council have approved the Public Health Committee's scheme for a systematic treatment of tuberculosis throughout the county area. The council undertakes to give sanatorium benefit to all insured persons on condition that it receives annually from the County Insurance Committee 7½*d.* of every 9*d.* available to them for such benefit, and that the Treasury contributes one-half of the net sum required. The scheme will cost a capital expenditure of £20,360 and an annual expenditure of £11,000. The county council, so far as the accommodation will permit, agree to provide sanatorium benefit on certain conditions for persons who are not under the Act. The county will be divided into four dispensary districts for the treatment and supervision of cases. At Chester there will be a central dispensary and four subdispensaries. Crewe will have two subdispensaries and the other two centres at Hyde and Northwich will also have two subdispensaries each. A tuberculosis officer will be appointed for each district to work under the county tuberculosis officer and in coöperation with the various other agencies of the public health service.

Burnley Hospital Extension.

Two years ago it was determined to raise £30,000 for a much-needed extension of the Burnley Victoria Hospital. It is announced that £30,200 have been promised or paid over to the institution. The extension will commemorate the jubilee of the borough's incorporation and the Coronation of King George.

Medical Tickets in Salford.

At the end of January about 92,000 new medical cards were sent out, and about 14,000 of these have been returned through the dead letter office. These people were nearly all members of Approved Societies.

Radium Fund for Manchester.

The subscriptions to this fund have now reached nearly £4000. A general committee has been appointed to secure a supply of radium for medical use in "Manchester and neighbourhood," with subcommittees, including a technical and scientific subcommittee, to report to the general committee on the subject of radium. It was agreed that there should be but one fund and one public appeal in the matter.

The Effect of the Insurance Act on Hospital Attendance.

At the yearly meeting of the governors of Ancoats Hospital it was stated that during the year there had been a large reduction in the number of minor ailments and accidents treated at the hospital. It is assumed that these infirmities are now being treated by the Insurance Act doctors. The number of inpatients during the year showed a very considerable increase, and the average type was of a more serious character. As to accidents, 504 of these cases were of such a serious nature as to call for immediate admission to the wards. During 1913 2115 inpatients and 8873 out-patients were treated. The number of accident patients totalled 21,898. The annual expenditure was about £10,000.

Feb. 24th.

BRISTOL.

University of Bristol: Colston Society Dinner.

THIS annual function was marked by some very interesting speeches. Both the guests of the evening, Principal E. H. Griffiths, of University College, Cardiff, and Professor H. H. Turner, of Oxford, spoke in warmly commendatory terms of the spirit of research which has made itself felt in Bristol. The Lord Mayor of Bristol also spoke of the beneficent effects of the scholarships which gave a chance of university education to those who were capable of profiting by it, and who would have lost that chance had it not been for financial help. The treasurer, Mr. Arrowsmith-Brown, reported that the year's collection amounted to £492, a sum which would be handed over to the Colston research fund of the University.

Bristol Hospitals and Subscriptions from Working Men.

Some interest has been aroused in hospital circles in Bristol by the movement set on foot by some of the local labour leaders to gain representation for working men on the governing bodies of the hospitals. It is argued, and with considerable reasonableness, that since they subscribe largely to the funds of these institutions the working men should be directly represented on the management committees. The labour leaders stated, at meetings held during the past month or two, that requests to this effect had been ignored or refused by the hospital authorities, and they had determined to carry by storm the position refused to them by more peaceable means. Their plan is to "pool" the working men's contributions (so far as they could secure them) and to allot to nominees the sums equivalent to a governor's subscription. The first engagement in this campaign occurred last week at the annual meeting of the Royal Infirmary. The labour representatives attended in force; their first speaker, Alderman Sheppard, used the moderation in argument for which he is notable, and asked for a consideration of the plans whereby the hospitals of other cities, Newcastle-on-Tyne and Leicester, had

secured the confidence and support of the working men. Unfortunately his colleagues were less reasonable, and made vague insinuations against the treatment of patients which they were unable to substantiate. In his reply the president, Sir George White, repudiated these insinuations and passed over the other arguments brought forward. There is no evidence to show that these extremists represent the Bristol working man's attitude towards hospitals; nevertheless, it is probable that a good deal of misunderstanding between the institutions and their patients might be cleared up if the class from which the latter are mainly drawn were represented on the governing bodies of the former.

Bristol Royal Infirmary.

The conflict with the Labour representatives did not monopolise the interest of the infirmary annual meeting. The in-patients in 1913 numbered 5394, as against 5049 in the previous year (totals which include transfers from the preceding year in each case); this addition is explained entirely by the increased accommodation provided by the recent renovations. Out-patients fell from 58,923 to 42,051, an effect of the National Insurance Act. The total ordinary expenditure was £20,228, and the income £12,783. To this deficit has to be added that of £4857 carried over from last year. Moreover, in order to pay for the new buildings, erected at a cost of £137,000, invested capital to the extent of £83,448 has been spent. The committee claim that this step is justified by its results, and that the increased efficiency of the buildings thus procured would have gratified the pious donors of the endowments just sold. In accordance with this belief every investment to which no specific trust is attached has been sold.

Bristol General Hospital.

After 40 years' service, the secretary, Mr. William Thwaites, is retiring from his post to enjoy a well-earned rest. During this long term of office he has made many friends at the hospital, and the familiar presence will be very greatly missed. He is to be succeeded by Mr. T. W. Gregg, who was till now secretary to the Belgrave Hospital for Children. He has had considerable experience of institutional work. The new pathological department has been at work for some weeks, and constitutes a very important addition, not only to the hospital but also to the pathological resources of the West of England. It consists of a large laboratory admirably lit by windows extending the whole length of the bench wall and capable of accommodating at least six workers with ease, and a small private laboratory for the pathologist, Mr. George Scott Williamson, who has developed this department of the hospital in a remarkable way. These extensions set free the old laboratory for the use of students and at the same time provide space for original work.

Feb. 24th.

SCOTLAND.

University of Edinburgh: Honour for Professor Ehrlich.

THE Senatus Academicus of the University of Edinburgh have awarded the Cameron Prize in Therapeutics, which is given for "highly important and valuable additions to practical therapeutics," to Professor Paul Ehrlich, director of the Royal Institution for Experimental Therapeutics, Frankfort, in recognition of his discovery of salvarsan, of his researches on numerous synthetic organic compounds of arsenic, and of his important work on immunity.

Foundation of an Anæsthetists Society for Scotland.

A dinner was held on Feb. 20th at the Balmoral Hotel, Edinburgh, attended by anæsthetists from Edinburgh, Glasgow, Aberdeen, and Dundee, Dr. D. C. A. McAllum, of Edinburgh, in the chair. Edinburgh was further represented by Drs. Gibbs, Torrance Thomson, Jones, and Ross; Glasgow by Drs. Paton Boyd, Lamb, Napier, and Fairlie; Aberdeen by Dr. Johnston; and Dundee by Dr. Mills. Apologies were read from Dr. R. Home Henderson, of Glasgow, and Drs. Ogston and Robertson, of Aberdeen. At a business meeting held after the dinner it was resolved to form a society to be known as the Scottish Society of Anæsthetists, the objects of which should be "to further the study of the science and practice of anæsthetics, and the proper teaching thereof." It was resolved to limit the membership of the society to those practising the specialty of anæsthetics, but that other members of the profession interested in the subject should be invited as guests to the meeting to take part in the reading and discussion of papers. Office-bearers were appointed as follows: President, Dr. D. C. A. McAllum; Vice-President, Dr. J. Paton Boyd; and Secretary-Treasurer, Dr. J. Stuart Ross. Drs. Torrance Thomson, Lamb, Mills, and Johnston represent Edinburgh, Glasgow, Dundee, and Aberdeen respectively on the executive. It is intended to hold two meetings yearly in April and October, taking each of the four cities in rotation.

Royal Navy Medical Service: Address to Edinburgh Medical Students.

Surgeon-General A. W. May, Director-General of the Medical Department, Royal Navy, lately delivered an address to medical students in the New University Buildings, Edinburgh. Principal Sir William Turner, who presided, said that they wished to give a word of welcome to a very distinguished professional brother. Perhaps there was a stronger feeling amongst Scottish medical graduates towards the land services rather than the sea service. But they must keep this in mind, that Scotland was now about to become one of the greatest resorts for the Navy, and therefore the Navy would come home to them much more closely than it had done, and this was an appropriate time for the Director-General of the Medical Department of the Navy to come amongst them and tell them something about the Navy as a service. Surgeon-General May said that he had come to try to persuade some, at any rate, of the young men to join the Navy Medical Service. They were short of men in the Royal Navy at the present time. Giving the reasons for that shortage, he said that one was the fact that the medical service was judged greatly by the conditions which existed 35 years ago, and that it was judged unfavourably because at that time the service was not efficient. If, he said, they had an efficient service they would have a popular service, and he was glad to say that at present there existed no finer body of working medical men, especially in the younger branches of the service. The organisation and equipment of the hospitals were as fine as any in the world. The men they wanted were first-rate men, hard workers, and if they got those men they would be able to reward them as their work and their merits deserved. On the motion of Professor Harvey Littlejohn, the

Dean, a cordial vote of thanks was awarded to Surgeon-General May.

Dispute with Reference to the National Insurance Act.

A dispute has arisen between the miners of the Morningside district of Wishaw and the local doctors with regard to the payment of medical fees. Up till now the charge has been 2½*d.* per week, the money being deducted from the men's wages, but on the instruction of the county union the miners have decided to pay a contribution of only 2*d.* per week, and in consequence the medical men have intimated refusal to give attendance. The doctors are of opinion that the union has broken faith with them, the understanding being that country doctors were entitled to ½*d.* more per man than the remuneration given to town doctors. The dispute is a test one, as it is recognised that the outcome will affect the whole of Lanarkshire.

The Purification of the Clyde.

A deputation from the corporation of Glasgow and representatives of the county councils of Lanark and Renfrew, and the town councils of Rutherglen and Clydebank were received by the Secretary for Scotland last week to make representations on the question of the pollution of the River Clyde by sewage from the burghs of Paisley and Renfrew. The deputation urged that the corporation of Glasgow had already spent £2,500,000 on purification works, not to mention the sums spent by the two councils. It was also recalled that the burghs of Coatbridge and Airdie were, at the instance of the county council of Lanark, compelled by law to construct purification works. Hitherto Paisley town council have even refused to appoint a committee for the purpose of meeting with the Glasgow authority.

Glasgow Royal Infirmary.

During last year the patients admitted to the Glasgow Royal Infirmary were 9661, as compared with 8787 in 1912. The rate of mortality was 9·6 per cent., as against 10·17 per cent. the previous year. The daily average residing in the institution was 656·8. The total general attendances at the outdoor department were 128,637, as against 183,661 in the previous year, the decrease being probably due to the operation of the National Insurance Act. The total ordinary revenue was £28,427 and the total ordinary expenditure £53,548, leaving a deficiency of £25,121.

Feb. 23rd.

IRELAND.

The Dublin Housing Report.

THE report on the housing conditions of the working classes of the city of Dublin has given rise not unnaturally to much discussion and newspaper comment. The corporation, as was inevitable, has come in for severe censure. In a letter to the daily papers of last Saturday Sir Charles Cameron, medical superintendent officer of health, attempts to reply to some of the charges levelled at his department and at the civic management generally. He begins by charging the chairman of the committee of inquiry with bias, and with a desire to ignore all evidence in favour of the sanitary administration of the city. He goes on to show that in the last 35 years there has been a considerable reduction in the death-rate of Dublin. This, of course, is not denied, but nevertheless the death-rate is still the highest in the kingdom or, indeed, in Western Europe. With regard to the specific charges made in the report in reference to non-enforcement of the by-laws and improper granting of rebate of taxes Sir Charles Cameron's defence appears to fail.

Payment for the Certification Panels.

Much discontent has been naturally caused by the unexplained delay in making payment to the medical men who went on the certification panels at the invitation of the Insurance Commissioners last spring. Under the terms of the agreement accounts were to be settled quarterly, but more than ten months have elapsed without any payment being made. A recent communication to the County Cork Insurance Committee from the Insurance Commissioners is not likely to allay the anxiety of those to whom payments are due. Medical men going on the certification panel were assured that all insured persons who failed to choose a doctor would be allotted without delay, and they accepted appointment on the understanding that the entire money accruing to each area would be divided *pro rata* among the medical men on the panel for that area. County Cork was one of the areas in which the panel was declared by the Commissioners to be "completed." Nevertheless they have now declared that there were in that county several districts in which no facilities for certification were available for insured persons, and they refuse to make any payment in respect of insured persons in such areas. The point is in essence the same as that which has arisen in the county of London with regard to unallotted insured persons. The Irish Commissioners appear, however, to be bound by the terms of the agreement to make full payment. Medical men in other panel counties will wait with interest to know whether the Commissioners intend to attempt similar deductions in these areas.

Forster Green Hospital, Belfast.

Dr. F. Coates has been appointed honorary attending physician to the Forster Green Hospital, in place of Dr. J. E. MacIlwaine (resigned), and Mr. W. McCready, laryngeal surgeon, in room of the late Dr. C. Shaw.

Infantile Paralysis in Fermanagh.

As a result of the outbreak of poliomyelitis at the Irvinestown district of County Fermanagh two deaths have occurred. The Local Government Board has sent down one of its medical inspectors to make inquiries, and unfortunately a good deal of panic has arisen among the inhabitants, and in numbers of cases children are being sent out of the district. As to how the disease is spread, we are completely ignorant.

Feb. 24th.

PARIS.

The Reform of Medical Education.

THE Conseil Supérieur de l'Instruction Publique at its last meeting dealt with two questions touching medical education. The first was the situation of *professeurs agrégés* of the Faculty. These are nominated at the *concours*—under conditions which periodically give rise to lively protests—for a period of nine years, during which they take a course and undergo examinations. For teaching they are grouped in sections as specialists. For a long time the *agrégés* have complained of the temporary character of their position, and have even demanded that their appointment

should have the same duration as that of the professors, being prolonged to the ordinary age limit—viz., 70 years. The Conseil Supérieur has not acceded to this plan, but has agreed that at the termination of the appointment this extension should be accorded as a grace to the *agrégé* on a vote of the Council of the Faculty and the Consultative Committee of Public Instruction. These *agrégés* will receive the title of *professeur adjoint*, but the number of such professors in each faculty must not exceed one-sixth of the number of titular chairs. Moreover, if necessary, *agrégés* whose term came to an end before November, 1913, may be recalled to service for a term of one to three years. The second part of the decree deals with the organisation in the faculties of the complementary and post-graduate instruction. This instruction concerns especially (1) candidates for teaching posts or for public offices requiring medical knowledge; (2) students who desire to extend their studies after taking their degree, or to specialise; (3) students in their final term and medical men who desire to improve their acquaintance with the laws affecting medicine and the study of the difficulties that the practice of medicine raises; (4) medical men desirous of keeping themselves in touch with recent methods and discoveries; (5) foreigners who come to France to complete their instruction; (6) travellers who wish to pursue their personal researches in the laboratories or cliniques. Each faculty of medicine, after consultation with the council of the university and with the consent of the Minister, will create and organise its complementary and post-graduate courses according to the resources at its disposal and the particular needs of each of them.

The Return to Type.

A recent report by Dr. J. Laumonier to the Société Française d'Eugénique is of present interest, since nowadays nearly all the great nations receive a certain proportion of foreign immigrants, who by marrying natives give origin to half-breeds. Now, it is well known that half-breeds are not a stable type and that their descendants after a few generations revert to the type of one or other of their original progenitors. Dr. Laumonier claims to have shown that the greater persistence occurs in the type longest settled in the land. It would thus seem that a foreign population, introduced and fixed by marriage, loses its ethnic personality in succeeding generations, and that it is the indigenous type which finally persists.

The Serum Diagnosis of Tuberculosis.

M. Debains and M. Jupille would appear to have made a great advance in a recent communication to the Société de Biologie. They showed that Besredka's tuberculin, which is obtained by cultivating Koch's bacillus in egg bouillon, forms alexins in the presence of tuberculous serum from whatever form of clinical tuberculosis. This reaction is very sensitive, and is always specific, save in certain truly exceptional circumstances. It takes place with lesions that are developing. Its value is greater than that of the cutaneous reaction in that it gives an affirmative diagnosis, even when the clinical signs of tuberculosis are doubtful or altogether absent. It is absent only in those tuberculous patients who are severely afflicted and at the point of death, and in those who are already on the road to cure. It is superior to the ophthalmo-reaction in that its application entails no risk.

The Traffic in Habit-forming Drugs.

Severe sentences, varying from 200 to 2000 francs penalty (with 300 francs damages in one case) and one month in prison, have recently been passed in France upon five pharmacists for selling morphia and other habit-forming drugs. Of five wholesale druggists also inculpated two were muleted in damages. The judge's charge, which was in very severe terms, pointed out that stringent measures are now demanded, since drug addiction is no longer confined to neurotics and rich degenerates whose extinction would be no loss to the community, but is extending also among workers and university students.

Feb. 23rd.

BERLIN.

The Berlin Invalidity Insurance Institution.

THE annual report of the Invalidity Insurance Institution — Landes-Versicherungs-Anstalt — for the city of Berlin states that since compulsory insurance has been extended so as to include orphans and widows the number of persons connected with the institution is about 1¼ millions. It must be remarked that the above institution is concerned only with the city of Berlin proper, having about 2¼ millions of inhabitants, and not with the suburbs, which have an additional population of 2 millions belonging to the insurance institution of the province of Brandenburg. The income of the institution derived from the compulsory contributions of employers and working people was about 15 million marks in the year 1912, whilst the property of the institution was about 100 million marks. Of this sum about 36 million marks are invested in mortgages on asylums, sanatoriums, hospitals, homes for invalids, hygienic dwellings, &c.; about 20 million marks represent the value of the hospitals and sanatoriums belonging to the institution. The disbursements included sick pay to 49,621 men and 27,052 women, and old age pensions to 6548 men and 1611 women. Tuberculosis was the cause of invalidity in 19·1 per cent. of the men and in 14·4 per cent. of the women. The prophylaxis of tuberculosis is one of the most prominent works of the institution. In the sanatorium at Belitz 18,724 tuberculous patients were attended during the period 1908–12, at an expense of 10 million marks. Apart from the sanatorium for tuberculosis there is also in Belitz another one reserved for the treatment of other internal diseases, and in it 13,737 patients were treated, at an expense of 4·5 million marks. The united sanatoriums of Belitz are the largest in existence, the number of beds being about 1800. The institution also possesses in Lichtenberg, a suburb of Berlin, a receiving house in which doubtful cases are first examined until it can be decided if they are to be taken to Belitz. A day sanatorium is also combined with this house. Throughout the city there are numerous dispensaries, the nurses of which made 23,958 visits to tuberculous families, and the result of these visits was that in 225 cases more rooms were hired at the expense of the institution. In 915 cases the dwellings were disinfected. The institution has also an extensive dental department, where nearly 7000 patients were treated in 1913.

Proposed Neutrality of Watering-places and Health Resorts in Time of War.

Professor Kisch, of Marienbad, has published a proposal that watering-places and health resorts

should be used for the accommodation of sick and wounded soldiers in the event of war. He said that in time of war these places were completely abandoned by civilian patients, and that owing to their hygienic arrangements and the great number of beds provided in them the residential buildings might be regarded as large and well-equipped hospitals. For that purpose, however, it would become necessary to modify the Geneva Convention so that the health resorts and watering-places should be declared neutral and placed under the Red Cross just as hospitals are. In this way the possibility of street fighting would be avoided. Professor Kisch suggests that the Red Cross societies might take the necessary steps for approaching their respective Governments in support of his proposal.

The Climate of the African Desert.

An expedition for the study of the climate of the desert and its influence on the human subject will be sent to Egypt on behalf of the Physiological Institute of the University of Berlin. The expedition will start in the beginning of March, proceeding first to Helouan and then to Assuan. Investigations will be made on the metabolism of water and of nitrogen, on the respiration, the blood, and the nervous system. The expenses will be covered partly by the Government and partly by a legacy left by the late Countess Bose to the University of Berlin for scientific research.

Socialist Medical Men in Berlin.

Medical men belonging to the Socialist party have lately formed a society under the presidency of Dr. Zadek, a member of the Berlin municipal council. It has been suggested in the press that the new society might possibly in the future take up a position of antagonism to the bulk of the profession when strikes were in progress, and might help the sick clubs (of which very many are under the control of the Social Democratic party) in their struggle against the profession. The members of the new society have, however, declared that they are far from thinking of doing this, but that they will advise the Socialist party in medical matters better than has hitherto been the case; they hope to be able by their work to contribute to the establishment of better relations between the clubs and the profession. The society has already about 100 members. This is the first instance in this country of an organisation of medical men according to political principles.

Feb. 23rd.

CANADA.

Handsome Donation to National Sanatarium Association.

Mr. W. J. Gage, of Toronto, has recently given a further contribution of $100,000 for the prevention of tuberculosis throughout Canada, bringing his total gifts to a quarter of a million dollars. The amount will be employed in providing for needy patients in the Muskoka institutions. Mr. Gage is practically the founder of the sanatorium movement in Canada, and it is through his efforts that sanatoriums have sprung up in almost every section of Canada. Since the National Sanatarium Association was founded it has taken care, practically free of cost to themselves, of over 7000 patients in its various institutions, and there are now in the Muskoka and Weston and Humber institutions about 470 patients. The plant and equipment of all these hospitals is valued at $500,000.

Toronto School Children.

A report regarding mental defectives in the public schools of Toronto states that between 250 and 300 pupils are mentally defective. The Minister of Education has not yet exercised the powers conferred upon him in 1911 by the Act of the Ontario Legislature authorising the establishment of special classes. There are also said to be 45,000 school children with decayed teeth, and between 20,000 and 25,000 with septic mouths. It is proposed to establish six additional dental chairs.

Typhoid Fever in Toronto.

Fifty deaths occurred from typhoid fever in Toronto in 1913, as against 150 in 1911. In 24 of the 50 the disease had been contracted outside the city. Altogether the typhoid death-rate was 11 per 100,000 population; but as only 26 deaths can properly be attributed to conditions in the city, the rate would be 5·8. There are only four cities of over 350,000 in North America with a better record—viz., Cleveland, 6·3; Cincinnati, 7·3; St. Louis, 10·2; New York, 10·4.

Typhoid Fever in Ottawa.

For the past 15 years Ottawa has had a great deal of typhoid fever. From 1901 to 1910 there were about 200 deaths from this cause. Within 18 months in 1911 and 1912 two epidemics occurred, with 165 deaths. The New York expert, Mr. Allan Hazen, has recommended, amongst other things, the hypochlorite treatment of the water-supply. In March, 1911, the Canadian Conservation Commission with the Ontario Board of Health and the coöperation of other sanitarians investigated the causes of typhoid fever in the capital, and agreed that the Ottawa water-supply was polluted chiefly from the south shore of the river. After the epidemic of 1912 Mr. Hazen prepared a complete scheme of a water plant for Ottawa, which was endorsed by the Ontario Board of Health and accepted by the corporation of Ottawa, subject to ratification by the citizens. But at the municipal elections in Ottawa on Jan. 1st, 1913, the ratepayers rejected Mr. Hazen's scheme. On Jan. 7th Mr. Justice Lennox quashed a by-law passed by the Ottawa city council providing for the expenditure of $13,000,000 on a new waterworks system. He declared it illegal and improper, the sole ground upon which it had been passed being a *fiat* by the chief officer of health for Ontario. He had acted doubtless in the public interest, but had exceeded the powers conferred on him by the Ontario Legislature. There was no doubt as to the absolute necessity for a pure water-supply for Ottawa; it was all a question of procedure. If the citizens refused the appeal of the city council the right procedure was through the Ontario Legislature. On Jan. 1st, 1914, the ratepayers again rejected the scheme. An epidemic in Ottawa cannot be altogether a local matter, but would be of national and international concern, Ottawa being Canada's seat of government, so that the situation is serious.

Meat Extracts in Canada.

Bulletin No. 267 of the Laboratory of the Canadian Inland Revenue Department reports on 80 samples of meat extracts purchased throughout Canada. The Canadian standard requires 50 per cent. of solids in fluid meat extracts. Of the 80 samples analysed 12 were solid meat extracts, 25 were normal meat extracts, and 42 were fluid meat extracts; one was a meat juice. In all the solid extracts the ash and salt exceeded the limit named by the Canadian standard. Fat was in

decided excess in 17 samples. The Canadian standard for nitrogen content, 8 per cent. of the total solid matter, was met by all but four of the samples. Favourable notice was given to most of the samples, and their keeping qualities appear to be of the best.

Verdun Protestant Hospital for the Insane, Quebec.

During 1913 477 men and 433 women were treated in the Verdun Protestant Hospital for the Insane, near Montreal. There were 247 admissions. Of 151 discharged 74 had recovered, 45 improved, and 32 unimproved. There were 92 deaths. The percentage of recoveries was 31·62; of deaths, 10·10. The youngest patient admitted was 15 years and the oldest 88 years. There were only eight voluntary admissions. Receipts were $159,938, expenditure $162,465, deficit $2,527. The Quebec Government contributes $142 per patient per annum.

Feb. 10th.

Correspondence.

"Audi alteram partem."

AN INTERNATIONAL INSTITUTE OF PATHOLOGY.

To the Editor of THE LANCET.

SIR,—No one will be disposed to deny that humanity is becoming more homogeneous. Local boundaries and prejudices are passing away with the increase in the means of communication and rapidity of transit. "International" is the "leit-motif" of to-day. The opening of the Palace of Peace at The Hague last year is the outward expression of this sentiment and, though the project has been heaped with ridicule, still, taken merely as a feather in the wind, any thoughtful mind must regard it as of real import.

Art and science have always been regarded as international, and in medicine the names of Pasteur, Lister, Virchow, and Koch must ever be classed among the extra-national in that their work knew no national frontiers. What was so nobly said to Lister might with equal appropriateness be said of them, "Not a profession, not a nation, but mankind, with uncovered head, salutes you." The world now has a "Palace of Peace." Why should it not also have a "Palace of Pathology"?

In this country already the Insurance Commissioners have at their disposal a substantial annual grant for original research. Working on these lines, why should we not see an international institute of pathology established on some neutral territory and subsidised by contributions from the governments of the civilised world? All medical material, other than clinical, might be sent to this International Medical Commission; thither all medical publications, irrespective of country or language, duplicate slides of all unusual pathological sections and bacterial cultures, might be sent for adjudication. But who are to be the adjudicators? This problem might be left in the hands of the Permanent Commission of the International Congresses of Medicine. Is it a chimera to conceive a series of medical scholarships subsidised by the contributing nations and allotted on similar principles to the Rhodes scholarships? Statistics, too, might converge on this institution, and thus much of the overlapping which individual national effort shows to-day be avoided. The project is a vast one and would require infinite elaboration. I merely submit it, in all humility, for what it is worth.

I am, Sir, yours faithfully,

W. B. AINGER, F.R.C.S.Eng.

Sloane-street, S.W., Feb. 23rd, 1914.

THE MEIOSTAGMIN REACTION IN THE DIAGNOSIS OF CANCER.

To the Editor of THE LANCET.

SIR,—The brilliant results which have been achieved on the Continent by Ascoli and a great number of other workers by means of the meiostagmin reaction must make this a question of importance to all who are interested in the early diagnosis of malignant disease.

The object of this communication is to give a *résumé* of 18 months' work on this subject, and to point out that the results obtained in England—or, at any rate, in Scotland—do not accord with the very favourable statistics reported by workers in Italy, Germany, and Belgium. It is difficult to believe that Scotch blood sera differ from continental sera, and so one is forced to inquire if the malignant disease found here does not differ in some respect from that found in those countries. The technique can hardly be at fault, as the writer was very kindly instructed by Ascoli and Izar in the laboratory in Catania; and the later experiments, reported below, were done in collaboration with Dr. Urizzio, who had previously obtained most successful results while working in Vienna, Heidelberg, and Trieste. In the experiments many antigens were tried—various extracts of malignant tumours, pancreas extract, pancreas extract + cholesterin, myristil-agar, myristil-peptone, lecithin in toluol, and finally a mixture of linolic and ricinolic acids. With none of these were results obtained which could claim any diagnostic reliability.

With the pancreas extract there was a larger percentage of negative reactions in non-malignant cases—88·5 per cent., as against 61·3 per cent. with the malignant sera. However, with 11·5 per cent. of positive reactions in non-malignant cases the reaction was obviously without practical importance. Furthermore, the drop difference ("ausschlag") was not greater with serum than with antigen (pancreas extract) and saline alone. The addition of a small quantity of cholesterin was found to neutralise, in part or altogether, the effect of the pancreas extract. With the linolic-ricinolic acid mixture as antigen, the results were still far from satisfactory. 87 malignant sera and 85 non-malignant were tested with this antigen. Of the 87 malignant sera 41 gave a positive reaction; of the 85 non-malignant sera 29 gave a positive reaction. In these figures were included a number of exudates—chiefly pleural effusions—11 malignant and 9 non-malignant. If these are excluded there remain 76 malignant and 76 non-malignant sera. Of the 76 malignant sera 29 gave a positive reaction; of the 76 non-malignant sera 23 gave a positive reaction. Only one serum gave a pronouncedly high positive reaction, a reaction which arrested attention. This was from a case of cancer of the mouth and tongue. The first examination of the serum gave a drop difference of 5·5. A second specimen of blood was taken several days later, and the drop difference on this occasion was 4·4. This case had been under treatment with X rays. The patient did not differ clinically from numerous others examined, where

carcinoma of the tongue, throat, &c., was present and in which the serum yielded a negative reaction.

It is to be noted that almost all the pleural or peritoneal exudates examined gave a positive reaction—usually a very high "ausschlag"—even when there was no question of malignancy. Cerebro-spinal fluid from non-malignant cases may likewise yield a positive reaction, as may also hydrocele fluid.

After the above experiments were finished Dr. Urizzio came to collaborate with me at the Glasgow Royal Infirmary. 41 malignant sera and 44 non-malignant were examined. Of the 41 malignant sera, 25 gave a positive reaction—i.e., 60 per cent. of malignant cases were positive to the meiostagmin reaction. Of the 44 non-malignant cases, 36 gave a negative reaction—i.e., 81 per cent. of non-malignant cases were negative, and 19 per cent. positive. These figures, whilst undoubtedly better than those reported above, do not show that the meiostagmin reaction is of much importance to the clinician. The large proportion of definitely cancerous sera which give a negative reaction is sufficient of itself to exclude the test from the domain of practical diagnosis.

I am, Sir, yours faithfully,

ELIZABETH T. FRASER, M.D. Glasg.,
Late Assistant Bacteriologist, Glasgow Royal Infirmary,
Feb. 18th, 1914. Belt Memorial Research Fellow.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—After reading Dr. Thiele and Dr. Embleton's paper in THE LANCET of Feb. 21st, we feel that we are compelled to record our absolute dissent from their conclusions. We cannot help thinking that they have plunged somewhat lightly into this subject. They state that "the use of cholesterin and other anticomplementary substances ..... introduces a very serious source of error."

Cholesterin antigens have now been used for some considerable time as a routine in at least four important laboratories—namely, by Browning and Mackenzie in Glasgow, Hans Sachs in Frankfort, Swift in the Rockefeller Institute, and by ourselves at the London Hospital; and it would appear strange if the elementary points raised by Dr. Thiele and Dr. Embleton had not already received due attention. So far as we are concerned we dealt with these questions in our paper of 1912[1] which Dr. Thiele and Dr. Embleton have apparently overlooked. We showed at that time that the anticomplementary action of our antigen was slightly greater than that of the same extract without cholesterin, but it naturally occurred to us to use less of our antigen in order to make the anticomplementary effect equal to that of the old antigen. The great advantage which followed the use of our formula was therefore in no way dependent upon the anticomplementary action of cholesterin. All this work has been confirmed independently by Swift and others who have not published. In our opinion the experimental data given by Dr. Thiele and Dr. Embleton do not justify such sweeping deductions. The present place is not, however, convenient for pointing out in what manner they have obtained results absolutely opposed to ours.

[1] Zeitschrift für Chemotherapie, 1912, 1., 79.

Turning to the practical side of the question, we will only refer to one of the authors' concluding paragraphs. We find here a statement which we hope is only intended as a figure of speech and not as a statement of fact: "..... People who use anti-complementary antigens are continually reporting positive Wassermann reactions with anticomplementary sera from corpses, after anæsthetics and hypnotics, and in scarlet fever, &c." We do not know how many non-syphilitic conditions "&c." is intended to cover, or who has been continually making these reports. We have had a large experience of post-mortem sera, and our results have always been entirely satisfactory.

In the current number of *Brain* we have discussed many of these questions in detail. The conclusions are based, not only upon experimental work, but also upon the investigation of several thousands of patients.

We are, Sir, yours faithfully,

JAMES MCINTOSH,
PAUL FILDES.

Bacteriological Laboratory, London Hospital, E., Feb. 24th, 1914.

THE PAYMENT OF FEMALE MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—We understand that the posts advertised in your issues of Feb. 14th and 21st for two medical inspectors under the Board of Control (Mental Deficiency Act) are identical as regards the work required, but the payment offered is different, being £350 rising to £550 for the woman, and £400 rising to £600 for the man.

The Association of Registered Medical Women, supported by the British Medical Association, has strenuously upheld the principle that where men and women are doing identical work the rate of payment should be the same. The attempt to obtain the services of a woman at a cheaper rate than those of a man is not only unfair to the woman, but is likely to introduce a form of competition between practitioners of the two sexes which will be prejudicial to both and to the best interests of the medical profession.

We hope that medical women will not accept the salary offered, and that the Board of Control will see fit to reconsider its decision and to remove the inequality. We are, Sir, yours faithfully,

JANE WALKER,
President of the Registered Medical Women's Association.
F. MAY DICKINSON BERRY,
Chairman of Committee.

Harley-street, W., Feb. 24th, 1914.

THE EDINBURGH MEDICAL GUILD.

To the Editor of THE LANCET.

SIR,—I shall be glad if you will kindly correct an error in the report of your Special Commissioner *re* Medical Practice under the Insurance Act in this week's issue of THE LANCET on p. 566, item 7. Edinburgh Medical Guild is described as "a local body." This is an error, as the guild is open to all medical men in Scotland who have not accepted service under the Insurance Act, and at present it has members from various parts of Scotland.

I am, Sir, yours faithfully,

FREDERICK PORTER, M.B. Edin.,
Honorary Secretary, The Medical Guild, Edinburgh.

Edinburgh, Feb. 21st, 1914.

*** The word "local" was used as opposed to the word "general."—ED. L.

DIABETES INSIPIDUS AND INFANTILISM.

To the Editor of THE LANCET.

SIR,—Your annotation on this subject in to-day's issue leads me to draw attention to some recent experiments which testify against the notion that diabetes insipidus and genital atrophy are ever really of pituitary origin. That the genital atrophy of the adiposo-genital syndrome of man does not depend on the posterior pituitary lobe was proved conclusively by the case of Maranon (1911): microscopical examination showed that a hæmorrhagic focus had destroyed the anterior pituitary lobe and had entirely spared the posterior. This case, then, seemed to show that the genital atrophy was brought about by the destruction of the anterior lobe.

But Marrassini and Luciani (1912), after a very extensive series of castration experiments in rabbits and many other mammals, found that macroscopic and microscopic changes in the pituitary were inconstant and insignificant when present. This was confirmed in 1912–13 by Degener and Livingston, who never found pituitary hypertrophy in castrated rabbits. In December, 1913, Iscovesco showed that a special lipoid extracted by him from the anterior pituitary lobe, when injected hypodermically into rabbits for a long period at regular intervals gave no genital changes in either sex on necropsy. In the same month Camus and Roussy, experimenting on dogs, concluded provisionally that polyuria and the genital atrophy of the adiposo-genital syndrome are probably not due at all to a lesion of the pituitary, even when, as often happens, a pituitary lesion is unquestionably present, but depend on a neighbouring parapituitary basal lesion which injures centres or paths which are intimately connected physiologically in a way at present unknown with the nutrition of the testes and ovaries. Cushing's unaccountable polyurias after hypophysectomy, then, were due to undiscovered parapituitary lesions caused by the operation; but pituitary operations do not always produce such lesions. In one of Camus and Roussy's dogs a total, or almost total, hypophysectomy was followed by an enormous adiposity with perfect integrity of its testes and sexual functions. Here the adiposity was due to the loss of the posterior pituitary lobe, and the genito-sexual integrity was due to escape of the parapituitary genito-trophic centre and path. It is, of course, true that the posterior pituitary lobe has a diuretic function, and so also (to a slight extent) has Iscovesco's special anterior pituitary lobe lipoid.

We are forced to conclude, therefore, in the present state of our knowledge, that while there are really such conditions as pituitary glycosuria and pituitary adiposity, it is highly probable, if not certain, that pituitary diabetes insipidus and pituitary genital atrophy have no existence in man, rabbit, and dog.—I am, Sir, yours faithfully,

London, N.W., Feb. 21st, 1914. LEONARD J. KIDD.

FRACTURE OF THE EXTERNAL MALLEOLUS.

To the Editor of THE LANCET.

SIR,—As the result of reading Sir John Bland-Sutton's interesting paper on the treatment of fractures of the external malleolus in THE LANCET of Feb. 7th, I am tempted to ask the following questions: 1. Whether as a routine he removes the external malleolus when fractured? 2. Is there any possibility of a valgus or varus condition of the foot resulting? Under such circumstances would a stiff ankle be better than talipes valgus or varus? 3. Is there any displacement of the peronei tendons, and if so, what means are taken to remedy such displacement?—I am, Sir, yours faithfully,

B. WHITCHURCH HOWELL.

Great Portland-street, W., Feb. 19th, 1914.

GLANDERS IN HUMAN SUBJECTS.

To the Editor of THE LANCET.

SIR,—May I trespass on your space and in view of the cases of glanders in human subjects recorded in THE LANCET of Dec. 13th, 1913, p. 1696, by Mr. H. M. M. Woodward and Mr. K. B. Clarke, direct your attention to the very interesting case of chronic glanders in a shoemaker described in the *Nederlandsch Tijdschrift voor Geneeskunde*, Nov. 22nd, 1913, by Messrs. J. W. van der Valk and H. J. M. Schoo, of Amsterdam?

This is the first case recorded in Dutch medical literature. Full bacteriological examinations were made and excellent plates are given.

I am, Sir, yours faithfully,

HUBERT M. BOSHOUWERS, M.D.

Antofagasta, Chile, Jan. 22nd, 1914.

THE RÔLE OF SYPHILIS IN MENTAL DEFICIENCY AND EPILEPSY.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 14th you mention the importance of the systematic examination of the mentally deficient both clinically and by the Wassermann reaction, and you refer to the recent pioneer work in England of Dr. K. Fraser and Dr. H. F. Watson.

I should like to point out that in the sixty-seventh report of the Commissioners in Lunacy published in June, 1913, and in our tenth annual report for the year ending March 31st, 1913, I published the results of my investigations into the incidence of syphilis among 163 mentally deficient patients then resident at this asylum.

I am, Sir, yours faithfully,

W. REES THOMAS,
Senior Assistant Medical Officer and Pathologist.

East Sussex County Asylum, Hellingly, Feb. 23rd, 1914.

LONDON: ORGANISATIONS FORMED TO COMBAT THE ACT.

To the Editor of THE LANCET.

SIR,—I am instructed to correct a slight inaccuracy in the account published with this sub-heading in your issue of Feb. 21st.

Definition 6 which reads: "6, National Medical Union, formed in Manchester, and now the federating body for non-panel associations" is not quite correct, inasmuch as the federation is a new body formed at London at a Conference of Non-Panel Associations held on Nov. 29th, 1913.

Definition 6 should therefore read: 6, National Medical Union, formed in Manchester, now a unit of the Federation of Non-Panel Associations under the title of "Manchester District."

This entails the addition of a thirteenth definition: 13, National Medical Union, a federation of non-panel associations formed at London on Nov. 29th, 1913, at a conference of delegates

representing over 1000 non-panel practitioners in various parts of Scotland and England. At this conference the Manchester society agreed to hand over the title "National Medical Union" to the new federation, itself adopting the designation of the Manchester District of the new body. The federation now known as the National Medical Union is distinct in origin, executive, and policy from the older body of the same name, which together with the Edinburgh Guild and various London non-panel associations has coöperated in a new establishment. I am, Sir, yours faithfully,

ROBERT CARSWELL,
346, Strand, W.C., Feb. 23rd, 1914. Hon. Secretary.

THE PUBLIC HEALTH (OPHTHALMIA NEONATORUM) REGULATIONS, 1914.

To the Editor of THE LANCET.

SIR,—These regulations, dated Feb. 5th, 1914, together with a circular letter of the 6th inst., have just been issued by the Local Government Board to local sanitary authorities, extending the compulsory notification of this disease to every sanitary district in England and Wales. They come into force on April 1st, 1914.

The fee of 2*s.* 6*d.* will be paid to medical practitioners for each case arising in their private practice, or 1*s.* for cases in public institutions, or for Poor-law cases. Midwives will receive 1*s.* for any case, wherever occurring. The actual fees received will be 1*d.* less than stated, as the notifications have to be sent to the medical officer of health by the penny post, if not delivered by hand at the town-hall. If a practitioner and a midwife both notify the same case, are both to receive fees?

The issue of these regulations, besides future regular work, at once provides every medical officer of health with the necessity of finding time to (1) compose and issue a circular to all medical practitioners, resident *or* practising in the district of his local sanitary authority; (2) the same to all certified midwives; (3) prepare and issue, guided by the schedule to the regulations, books of notification forms (with counterfoils) for the use of the said midwives; and later on (4) prepare and distribute quarterly fee-account forms to all the aforesaid practitioners and midwives. For this considerable addition to his duties the medical officer of health gets no more remuneration, not even 1*s.* per case. So the Antitoxin Order, 1910, still retains its distinction as the only Order of the Local Government Board which impressed on local authorities that increased duties should bring increased salary to the poor medical officer of health.

No provision is made in these regulations for the enforcement of any penalties on practitioners or midwives who do not obey them. If the medical officer of health issues books of forms (as instructed) to midwives who practise in his district but do not reside there, a midwife may receive as many as three or four from different medical officers, causing much confusion, and then might notify a case to the right medical officer of health on the wrong book, or *vice versâ*. It should have been sufficient—as under the Tuberculosis Regulations, 1912—for each medical officer of health to provide books for those midwives *residing* in his own area. The term "child" is not directly defined, but from article I. (i) of the definitions one presumes that by "child" is meant "an infant less that 21 days old."

No time-limit of 36 hours, as in the Notification of Births Act (1907), or of 48 hours, as in the Tuberculosis Regulations (1912), is given, but a practitioner must notify "on first becoming aware" and a midwife "forthwith." Article VI. contains a phrase that will cause as much trouble as the "exemption section" of the Notification of Births Act (1907)—viz., that a midwife must notify "unless the case has been already notified by a medical practitioner." A converse exemption is supplied in Article V. (1 b) for a medical practitioner. The section of the Notification of Births Act referred to has greatly impaired the usefulness of that Act.

As only "certified" midwives are referred to throughout these latest regulations of the Local Government Board, I presume that the old-fashioned midwife, who is only *registered* and not certified by the Central Midwives Board, need not comply with the regulations.

The medical officer of health is an expositor of preventive and not of curative medicine. Therefore, under these regulations he cannot do more than endeavour to see that an infant notified as suffering from "ophthalmia neonatorum" has prompt treatment at the hands of a private practitioner or in a public institution. If the parent or guardian does not provide this, the medical officer of health can either urge his Council to prosecute the offender under Section 12 of the Children Act, or (that failing) bring the case to the notice of the local representative of the Society for the Prevention of Cruelty to Children.

I am, Sir, yours faithfully,

Feb. 11th, 1914. ENERGY.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—There can be no doubt that the articles in THE LANCET, the *British Medical Journal*, and the *Morning Post*, to which I alluded in my letter of Feb. 14th, discussed the question of "free choice" solely from the point of view of the importance of patients being able to choose their own doctor. Dr. Shaw challenged me to show how such "free choice" could be extended to patients under a State service, but instead of answering my suggestions he now shifts the argument to the question of doctors being able to limit their panels by their right of "free choice" of patients. If "free choice" means this right on the part of the doctors and not the right of the patients, then certainly I am "using the words 'free choice of doctor' in some different sense from that generally understood by the profession," but not different from that in which it was used in the articles referred to above, nor from that in which my colleagues in the State Medical Service Association use it.

Dr. Shaw approves of the panel system because doctors are placed in competition to secure patients by *pleasing them*, and because success in doing so entails *increased remuneration*. It is just this system of trying to please patients for the sake of personal gain that seems to me and other advocates of a State Service inadvisable. If this objection were removed by the formation of a whole-time salaried service, no one would be adverse to patients enjoying whatever therapeutic advantages there may be in "free choice of doctor" in so far as that were possible.

Dr. Major Greenwood asks: "Are all the 20,000 panel doctors to be paid uniform salaries, as is usual in a Government service .....?" I cannot think of any Government or municipal service where the

whole staff is paid a uniform salary. The salaries vary according to seniority, rank, and the value of services rendered, and so it would be in a State Medical Service; there would be seniors, juniors, assistants and junior assistants, each grade receiving a different scale of remuneration. Amongst the panel doctors to-day there are partners, first, second, third, and even fourth in seniority, and there are senior and junior assistants, all receiving different rewards for their labours, though probably year in and year out they all do about the same amount of work. The present position and remuneration of each panel doctor could be made the basis of his rank and salary under a State Service to start with.

Surely to maintain that Poor-law patients have "free choice of doctor" because they can pack up and remove to the district in which the doctor of their choice resides would be ludicrous even if it were accurate. I believe that under the Acts of Settlement of Charles II. and 1835 the guardians would refuse them relief and bundle them back to the parish from which they came. Dr. Greenwood states: "Like all reformers of his kind Mr. Parker has not the slightest regard for vested interests. He does not consider in the least the present purchase value of medical practice ....." A statement of this sort is not argument and it is not true. It can only be made, like Dr. Shaw's reference to extreme Socialists and Shavian distrust, in order to prejudice the case for a State Service in the eyes of the profession. As it is impossible to go into every detail of such a big subject within the limits of a letter to the press, I will refer Dr. Greenwood to the concluding paragraphs of an article of mine published in the *Fortnightly Review* for May, 1913, where he will find that I not only recognise the necessity of guarding the vested interests of the profession during the transition stage from private practice to public service, but make various suggestions as to how this might be done.

In conclusion, may I say that neither Dr. Shaw nor Dr. Greenwood has answered the question I wished to raise—namely, whether the present methods of bringing the profession into touch with disease and of dealing with it were the best possible methods for securing a healthy nation. However, I have pleasure in noting that Dr. Shaw speaks of my "fair vision of extension of medical aid to every individual who needs it" with some approval, though he is content with present methods; whilst Dr. Greenwood apparently does not disapprove of the "highly coloured picture of the result to be obtained at the end of the journey," but doubts whether any Government having regard for its well-being could be found to put it into effect. Visions stimulate public opinion, and public opinion can put heart into Governments.

I am, Sir, yours faithfully,

Feb. 23rd, 1914. CHARLES A. PARKER.

To the Editor of THE LANCET.

SIR,—While opinions are divided on the advantages and disadvantages of converting the present panel system into a salaried State service, I think there can be only one opinion as to the advisability, indeed, the urgent need, for a modified State service in connexion with the panel system. I have ventured to suggest something of the kind at various times since the Bill was first published, and even among the bitter opponents of the Act what I now propose has been more or less cordially approved, in some cases, of course, *faute de mieux*, but for the most part with full acceptance of the importance of it both to the State and to the insured.

It is briefly this: that in each district there should be appointed consultants of proved ability who, upon adequate salaries, would give their whole time to the work of diagnosing cases sent to them by the panel doctors, and that, in addition to these consultants, there should be specialists in X ray work and in pathological analysis. Even the warmest advocates of the panel system cannot deny that it fails, and is bound to fail, in the treatment of organic diseases with obscure symptoms. Apart from the fact that few of the panel doctors have had the experience and the training which would enable them to diagnose the more subtle symptoms of organic disease, it is impossible for them to give the necessary time to such diagnoses. Within my own knowledge poor people suffering from ulcers and cancer of the stomach and intestines have been treated as cases of simple dyspepsia. One poor woman, who recently died from intestinal cancer, was from the first treated with bismuth and soda, and no one was so shocked as her panel doctor when he discovered too late what was the matter with his unfortunate patient. He was both skilful and kindly, but to diagnose such a case in the minute and a half—which is about the average he is able to give to each patient—would have been impossible for the best expert in Harley-street.

To the list of consultants should be added a specialist in malingering, to whom doubtful cases of that disease could be sent. If this plan were adopted it should be enacted that no patient should be put on benefit for more than a week, or at most a fortnight, without certification by the proper consultant. This provision alone would save the country many thousands in sick benefit, to say nothing of the economic gain of sending slackers back to work. To begin with, and perhaps permanently in some districts, it would be desirable to enlist the help (upon proper terms, of course) of the out-patients' departments of hospitals and of the better class dispensaries. Doubtful cases that do not get well within a fortnight under panel doctors' treatment should be sent to these institutions for diagnosis and certification or discharge.

I am, Sir, yours faithfully,

Feb. 23rd, 1914. X. Y. Z.

LITERARY INTELLIGENCE. — Messrs. Thomas Murby and Co. announce for early publication "The Mind at Work: A Handbook of Applied Psychology," edited by Geoffrey Rhodes, with contributions by Charles Buttar, M.D., E. J. Foley, and Professor L. L. Bernard, Ph.D.

THE AFTER-CARE ASSOCIATION.—The annual meeting of this association was held on Feb. 23rd in the library of the Royal College of Physicians of London, when Sir Thomas Barlow presided. The report showed that the experiment tried since the beginning of November last, in connexion with certain asylums in the south of England, of receiving mental patients discharged "on trial" had been satisfactory. The income from subscriptions and donations showed a slight decrease. Sir Thomas Barlow said that it was now recognised that those who had been afflicted ought to be set upon their feet again. Social problems could not be solved by leaving everything to be done by the State. Of the institutions which helped to bridge over for the poor the interval between recovery from illness and the return to wage earning, none deserved support more than the After-Care Association. The public mind should be disabused of the pessimistic idea that cases of mental disease were hopeless.

THE NATIONAL INSURANCE ACT.

THE GENERAL MEDICAL COUNCIL AND "OWN ARRANGEMENTS": A MEMORANDUM BY SIR DONALD MACALISTER.

A MEMORANDUM was presented by Sir Donald MacAlister, President of the General Medical Council, to the National Insurance Act Committee and the Executive Committee of the Council, on Monday last, Feb. 23rd, when these committees had under their consideration all the circumstances under which insured persons are entitled to make their own arrangements for the receipt of medical benefit. The memorandum runs as follows:—

The President desires to remind the committees that in November, 1913, he received and transmitted to members certain communications in which it was alleged that one or more Local Insurance Committees had entered into or sanctioned forms of agreement with unqualified persons, by which the latter undertook to provide medical attendance and medicines to insured persons who were permitted to "make their own arrangements" for medical treatment under the National Insurance Act. Owing to his illness the President was unable to be present at the meetings of the National Insurance Act Committee at which these communications were considered. The minutes of the meetings, at which Dr. Langley Browne acted as chairman, were laid before the Council at its November session and approved. The minutes showed that the committee were of opinion that the action taken by one at least of the Local Insurance Committees raised questions of grave importance as to the relation of the Medical Acts to certain Regulations made under the Insurance Acts. As it appeared doubtful whether the Local Committee in question was acting with the official sanction of the Insurance Commissioners, inquiries were addressed to the latter, and, as will be seen from the annexed correspondence, objections of a legal character were urged in the public interest against the Local Committee's proceedings.

The Chairman of the National Health Insurance Commission for England (Sir Robert L. Morant) met the Council's committee on Nov. 27th, 1913, and after a statement made by Dr. Norman Walker, at the request of the committee, in regard to the changes in their Regulations which it was desired that the Commissioners should make in respect of unqualified persons, a discussion took place on the questions thus raised. Sir Robert Morant agreed that the objections that had been raised to some aspects of the action of the Local Committee were valid, and stated that its procedure had apparently been adopted under a misapprehension. At the same time it was the case that, as had been explained by the Government during the consideration of the Bill in Committee in the House of Commons, under the provisions of the present Section 15 (3) it was open to Insurance Committees, if they thought fit, to allow insured persons who so desire to make their own arrangements, subject to certain conditions, with persons not medically qualified, and to receive a contribution towards the cost thus incurred. The 1913 Regulations contained no reference to this matter, and therefore made no special provision for such cases. It was thus impossible for the Commissioners to prevent the recurrence in those cases of action such as that referred to without issuing new and explicit Regulations dealing with the case of arrangements with unqualified persons.

Sir Robert Morant stated that the Commissioners, in drawing up the amended Regulations and Memoranda for 1914 (which were already in course of preparation) would be prepared to meet the wishes of the Council in regard to the objections in question. By making the requisite amendments in the Regulations and issuing instructions to Local Committees they would set forth clearly that the procedure to be adopted in the case of "own arrangements" made by insured persons with qualified practitioners was not applicable to the case of "arrangements" which certain insured persons might be permitted by the Insurance Committee to make, on their own responsibility, with unqualified persons. It was beyond question that, in the case of arrangements made by insured persons with unqualified persons, some of the conditions of the Exchequer Grant—for instance, the undertaking to give domiciliary treatment for tuberculosis in accordance with the Local Government Board Order—could not be fulfilled. As to a point which had been raised about medical certificates furnished to Approved Societies by insured persons when claiming sickness benefit, Sir Robert Morant stated that no question arose as to treating any statement of an unqualified person as a medical certificate. The rules of Approved Societies require the society to be satisfied by a medical certificate or other evidence of incapacity before admitting the claim to sickness benefit. Any such statement will be merely evidence which the society may have to consider in adjudicating upon a claim for sickness benefit in accordance with its rules. Responsibility for weighing that evidence rests with the society.

After further discussion, Sir Robert Morant repeated that the Commissioners, in the revision of the Regulations then in progress, would gladly give the fullest possible effect to the wishes then expressed to him on behalf of the Council, and in particular would endeavour to secure that the memoranda and official forms now to be issued by the Commissioners on this subject, for the guidance of local committees and others concerned, should be worded with a view to avoid misunderstanding. Every effort would be made to exclude phrases which might seem to afford occasion for any contravention of existing statutes bearing on the subject. Nor would the Commissioners approve any procedure which failed to make the necessary discrimination between the unqualified person and the practitioner who is "duly qualified" according to law.

The letter written by the President at the request of the Council in order to give formal expression to its views, and the letters sent by the Commissioners in reply thereto, are appended. The new Regulations issued by the Commissioners in pursuance of the above-mentioned discussion have been circulated to members of the Council, and published for general information. The new Memorandum (191/I.C.) of the Commissioners, explaining more fully the purport of Regulation 44, is circulated herewith.[1]

These documents appear to the President to give substantial effect to the wishes which the Council requested him to express to the Commissioners. He is satisfied that the Commissioners fully apprehend that the Council attaches great importance to its contention that nothing should be done, by administrative action, which would tend to defeat the purpose of the Legislature in framing the Medical Acts—namely, "to enable persons requiring medical assistance to distinguish qualified from unqualified practitioners"; or which might be deemed to confer official "recognition" on persons who according to law are "unqualified" and are prohibited from assuming the status and responsibilities of registered medical practitioners. He submits the Regulations and Memorandum to the Executive Committee in the belief that his colleagues will desire to acknowledge cordially the readiness the Commissioners have shown to consider the representations made to them, and to remove difficulties which have arisen in connexion with the local administration of the National Insurance Act.

Feb. 23rd, 1914. DONALD MACALISTER, President.

The following are the appended letters:—

A

General Council of Medical Education and Registration of the United Kingdom,
299, Oxford-street, London, W.

No. 34946. *9th December*, 1913.

DEAR SIR ROBERT,—The General Medical Council has learned that one of the Local Insurance Committees has recently approved a form of agreement, between certain insured persons and a person who is not qualified under the Medical Acts, by the terms of which the latter undertakes to provide the insured persons with medical attendance and medicines, to give the domiciliary treatment included as a part of Sanatorium Benefit, and to furnish such certificates as may be required to enable the insured persons to obtain the several benefits of the National Insurance Act.

The Council has no reason to believe that the form of

[1] The Memorandum of the Commissioners was published in THE LANCET of Feb. 14th, p. 502.

agreement in question has received the official approval of the Commissioners; and I am now, on behalf of the Council, writing to ask that the Commissioners should formally intimate their disapproval of it to the Local Insurance Committee.

The information in the possession of the Council makes it clear that the form of agreement employed in this case is appropriate only to an arrangement made with a legally qualified practitioner, and that some of the undertakings it contains cannot be legally carried out by an unqualified person. I am advised that such agreements are in fact invalid, inasmuch as they contravene the provisions and defeat the purpose of the Acts regulating medical practice in this country. If such action on the part of the Local Insurance Committees were to become general, it would moreover, in my opinion, defeat the objects of the National Insurance Act itself.

The Council is confident that the Commissioners will realise the importance in the public interest of the question of principle thus raised; and that they will take all proper steps both to bring to an end the procedure to which objection is taken and to inform the authorities who may be concerned that, in connexion with the administration of medical benefit, no valid agreement of the kind can subsist with an unqualified person.

I am, yours very faithfully,
(Signed) DONALD MACALISTER, President.

Sir Robert Morant, K.C.B.,
National Health Insurance Commission.

A note of formal acknowledgment was followed by—

C

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
January 9th, 1914.

DEAR SIR DONALD MACALISTER,—I write to say that we now have our new Medical Regulations practically completed containing paragraphs that will make it possible to deal, in the way that the General Medical Council indicated to be in their view desirable, with the various points about unqualified practitioners that were discussed at my meeting with your committee on 27th November; and I shall hope in a few days to be able to send you, as we arranged, a draft of the explanatory Circular and Forms needed in this connexion. I will send you copies of the new Regulations directly any are available from the printer.

When you receive them you will see that the subsections of the new Section 44 (formerly Section 49) set out in separate paragraphs the procedure to be followed in the case of those insured persons on the one hand who make "own arrangements" with unqualified persons, and those on the other hand who make "own arrangements" with registered practitioners. The words "in such manner" in the new Section 24 (formerly Section 14) mean that a special form will be required for use in these cases. The separation of Subsection (2) from Subsection (1) of the new paragraph 44 in the new Regulations makes it clear that the committee does not have to institute any comparison between the treatment provided by the unqualified person and the treatment provided by the qualified practitioner. Furthermore, under the new wording of paragraph 44 (4) it will be necessary for the Insurance Committee to make plain in any "own arrangements" with unqualified persons that there are some things required as conditions of the Treasury grant, which the unqualified person will not be expected to do (for the reason, of course, that he is not qualified for doing them), without for that reason precluding all possibility of contributions being made by the Insurance Committee towards the insured person's expenditure in such cases.

With the new Regulations thus clear on these points I do not think we shall now find any particular difficulty in arriving at suitable means for giving effect to what your committee indicated, when we draft the explanatory Circular and Forms; but I shall be glad if you let me know of any points in the latter, when I send them to you, which seem to you either not clear or inconsistent with what is in view.

I am, yours very truly,
ROBERT L. MORANT.

On Jan. 19th Sir Robert Morant wrote, enclosing a copy of the New Regulations for Medical Benefit, and indicating that in Section 44 steps had been taken to make definite distinction between qualified practitioners and unqualified persons in the case of insured persons desiring to make their own arrangements; and on Feb. 14th the communication which follows was accompanied by the memorandum to Insurance Committees explaining generally the provisions of the Medical Benefit Regulations for 1914, governing "own arrangements" under Section 15 (3) of the 1911 Act, both with registered practitioners and with unqualified persons. This memorandum was published in THE LANCET on that date through the courtesy of the Commissioners.

As regards the memorandum Sir Robert Morant writes to Sir Donald MacAlister:—

You will find, I think, that the two points which your Council pressed us to make explicit have been fully met, i.e.:—

(*a*) Attention has been unmistakably drawn to the distinction between "own arrangements" with registered practitioners and "own arrangements" with unqualified persons; and

(*b*) It has been made quite clear that Insurance Committees, in dealing with applications for "own arrangements" of the latter kind, are under no obligation to institute any comparison with the treatment afforded by a qualified doctor, or, indeed, to inquire into the nature or form of the proposals under consideration between the unqualified person and the insured person making his own arrangements.

Forms designed for the assistance of Insurance Committees in dealing with various types of applications for "own arrangements" have been prepared.

LONDON PANEL COMMITTEE.

The Insurance Commissioners have declared the following to constitute the first Panel Committee for the County of London to hold office until July 15th, 1914:—

Battersea—Knox, A. W., Richards, J. T.
Bermondsey — Jaynes, V. A., Richmond, B. A. (Chairman).
Bethnal Green—Grace, J., Sasun, D. D.
Camberwell—Batten, G. B. (Vice-Chairman), Brenchley, A. D., Clatworthy, J. H., Esler, E., South, F. M. W.
Chelsea—Hudson, E., Orr, J. J.
City of London—Scanlan, J. J., Strong, R. H.
Deptford—Gooding, C. G., Payne, W. H.
Finsbury—Hockridge, T. G., MacGregor, R. D.
Fulham — Coltart, G. H., MacBurney, J. H.
Greenwich—Corfe, R., Hogarth, C. W.
Hackney—Keenan, T. F., Swan, A. T.
Hammersmith — Butler, J. A., Davidson, W. A.
Hampstead—Cunnington, C. W., Taylor, E. Claude.
Holborn—Two vacancies.
Islington—Jackson, J. E., Patch, H. H. L., Sherry, J. J. A.
Kensington — Atteridge, J. J., Carter, R.
Lambeth — Cazenove, W. R., Farman, R. J., Fraser, D. H., Taylor, H.
Lewisham—Donnellan, R. V., Hatfield, W. H.
Paddington — Angus, J. A., Williams, J. O.
Poplar—Cardale, H. J., Paxton, J.
St. Marylebone — Simpson, J. Pollock, Williams, R. Thorold.
St. Pancras—Fletcher, J. Corbet, Freyberger, L., Marshall, T.
Shoreditch—Two vacancies.
Southwark—Denning, J. V. C., Smith, F. J. Porter.
Stepney — Bernstein, M. M., Williams, W. O.
Stoke Newington—Page, A. M., Welply, A. (Secretary).
Wandsworth — Biggs, A. C. B., McMurtry, W., Roe, A. D., Thomas, C.
Westminster — Roach, W. F., Starkie, R. F.
Woolwich—Clarke, J., Mair, A.
Women—Baker, Elizabeth, Bentham, Ethel.
Coöpted—Mills, H. H., Shaw, Lauriston E. (Treasurer).

MEDICAL INCOMES UNDER THE NATIONAL INSURANCE ACT.

In view of the system of payment adopted in lieu of the capitation system at Manchester, and of the resolution of the Insurance Committee in that city to limit incomes to be derived from panel practice to £800 a year, the sums realised during the first year of the working of the Act by the 300 medical men who have gone on the panel in Manchester are of interest. The largest individual income has been £1980; 14 practitioners have earned between

£1000 and £2000; 11 between £800 and £1000; 32 between £500 and £800; and 47 between £300 and £500. Among those making incomes less than £300 per annum from panel practice, and particularly among 88 practitioners who have made less than £50, there are, no doubt, many who only attend as patients under the Insurance Act the servants and other dependents of their private patients in the wealthier neighbourhoods in which the bulk of their work is done. It will be interesting to set the above figures beside those that will record the working of the Act at Manchester during the current year. The figures given for panel practice at Leeds during 1913 form a useful comparison. Out of about 190 medical men on the panels there, 5 have made incomes of between £1000 and £1500, 7 between £800 and £1000, 25 between £500 and £800, and 27 between £300 and £500; 30 made less than £50. The above figures, of course, take no account of partnerships.

LANCASHIRE INSURANCE COMMITTEE.

At a recent meeting of the Lancashire Insurance Committee a request was made by the Medical Benefit Subcommittee for Chadderton, Crompton, and Royton that medical men on the panel should be supplied with drugs and articles likely to be required upon an emergency, and should draw from such a stock in the event of insured persons applying to them for treatment at a time when druggists' shops were closed. The practice of making up prescriptions from their own stocks of drugs and keeping an account in accordance with the requirements of the Insurance Committee in order to obtain repayment was found to take up a great deal of time. On the other hand, the clerk to the Insurance Committee pointed out that considerable clerical work would be entailed upon the committee if the proposed change were adopted. Eventually the subcommittee's recommendation was approved subject to the County Medical Committee and the County Pharmaceutical Committee being able to arrive at a working arrangement.

Medical News.

UNIVERSITY OF OXFORD.—The Philip Walker studentship in pathology, of the annual value of £200 and tenable for three years, has been awarded to Charles Joseph Singer, D.M., Magdalen College.—The following medical degree has been conferred:—

D.M.—F. O. Stohr, Trinity College.

UNIVERSITY OF BRISTOL.—In the final examination for the degrees of M.B., Ch.B., held recently, the following candidate was successful:—

Maurice Charles Barber.

Lieutenant-Colonel Sir David Prain, director of Kew Gardens, was nominated by the President of the Board of Agriculture and Fisheries as one of the three representatives of that department at the International Conference on Phytopathology held at Rome this week.

THE CAMPAIGN AGAINST INFANT MORTALITY.—On Feb. 24th the Queen attended a matinée at the Palace Theatre in aid of the Schools for Mothers in Fulham, Poplar, Shoreditch, and Stepney. These institutions are designed to give simple advice and instruction to working women, and are aimed directly against infant mortality. Originating in Ghent, these schools, which have now spread over Europe, were first tried in England at St. Pancras in 1907. They have proved a great success in many districts of London and in provincial towns, giving meals to women at a nominal cost for six months before and a year after the birth of a child, while medical men attend the schools twice a week, when babies are weighed and the mothers advised as to their own health and that of the children. Instruction in the making and mending of clothes is also given, the whole organisation being put at the disposal of the women for 1*d.* a month.

ST. GEORGE'S HOSPITAL.—The annual dinner of the Hunterian Society of this hospital will be held on Friday, March 13th, at the Waldorf Hotel, and will be followed by a smoking concert. Tickets for the dinner will be 6*s.*, exclusive of wine, and those desirous of being present should communicate with the honorary secretaries of the society at the hospital.

THE TRAINED NURSES' ANNUITY FUND.—The Countess of Hardwicke, Lady Barlow, Lady Champneys, Mrs. Charles Balfour, and Miss Sidney Browne, members of the council of the Trained Nurses' Annuity Fund, have issued an appeal to nurses asking them to subscribe 1*d.* per month with the object of forming a benevolent fund. The address of the Trained Nurses' Annuity Fund, of which Princess Christian of Schleswig-Holstein is the President, is 73, Cheapside, London, E.C.

ASSOCIATION OF ASSISTANT MEDICAL OFFICERS OF ASYLUMS, ENGLAND AND WALES.—The executive of this association has issued a statement which is being sent to all members and clerks of visiting committees of public asylums in England and Wales. The statement summarises the various directions in which the association desires improvement in the terms and conditions of service of assistant asylum medical officers. These have been dealt with on several recent occasions in THE LANCET, and the case for reform was set out and discussed in a leading article on Jan. 10th last.

CONFERENCE ON THE TEACHING OF ANTHROPOLOGY.—Members of the Royal Anthropological Institute, representatives of the universities, and others interested in anthropology, met at the Drapers' Hall, London, on Feb. 19th, to discuss the practical application of the teaching of anthropology in the universities. Lord Selborne presided, and Sir Henry Craik, M.P., moved a resolution which approved the findings of the joint committee of the British Association and of the Institute, and declared that in the highest interests of the Empire the extension and organisation of the teaching of anthropology in the universities of Great Britain was necessary. Professor A. Keith, the president of the Institute, pointed out the lost opportunities for good which were the result of travellers to remote parts of the Empire not having sufficient knowledge of anthropology. The Institute wished to systematise all the information that it had gained and to place that information at the disposal of every university graduate. The resolution having been adopted, Sir Hercules Read moved that the chairman and members of the joint committee represent to the Prime Minister the views of the conference and ask for the appointment of an interdepartmental committee for advising as to the form in which the sympathy and support of the Government could be best expressed. Professor T. H. Warren seconded, and the motion, which was supported by Dr. W. L. H. Duckworth, Professor J. G. Frazer, and Dr. W. P. Herringham, was passed unanimously.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Elementary Education (Defective and Epileptic Children) Bill.

THE Elementary Education (Defective and Epileptic Children) Bill, which has been introduced into the House of Commons by Mr. PEASE, the President of the Board of Education, has been printed. It lays down that it shall be the duty of the local education authority for the purposes of the Elementary Education (Defective and Epileptic Children) Act, 1899, to make suitable provision for the education of children belonging to their area whose age exceeds seven years, and who are ascertained to be mentally defective within the meaning of the Act.

Inebriates Bill.

A Bill "to consolidate and amend the law relating to inebriates" has been introduced into the House of Commons

by Mr. ELLIS GRIFFITH, the Under Secretary for the Home Department. It has been read a first time.

Higher Animals Protection Bill.

Mr. CATHCART WASON, with the support of Mr. COWAN and Mr. WEBB, has presented a Bill in the House of Commons "to prohibit the vivisection of the higher animals." It has been read a first time.

The Insurance Act.

In the House of Commons on Wednesday, Feb. 25th, an animated debate took place on a motion brought forward by Mr. HAMILTON to the effect that an inquiry ought to be instituted to report whether it was desirable to substitute a voluntary system for the compulsory system of insurance under the National Insurance Act. The discussion turned largely upon the financial stability of the existing system. The Chancellor of the Exchequer resisted the motion, admitting that in time it would be desirable to inquire fully into the working of the present Act. Mr. LLOYD GEORGE strongly combated the idea of a voluntary system. Mr. BONAR LAW, the leader of the Opposition, supported the motion, which was ultimately rejected by 283 votes to 199.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 18TH.

Hospital Accommodation in Jamaica.

Sir JOHN JARDINE asked the Secretary of State for the Colonies whether anything had lately been done by the Government of Jamaica to increase the hospital accommodation in that island, especially in districts remote from existing hospitals; and whether anything had been done to utilise the services of ordinary independent medical practitioners, especially in districts reported upon as containing an extraordinary number of cases of syphilis.—Mr. L. HARCOURT answered: In reply to the first part of the question, hospital accommodation in Jamaica has been steadily augmented for a number of years past both by extension of building and by provision of additional beds. Comparison of the Blue-book for 1912-13 with that of three years before shows an addition of nearly 250 beds to the provincial hospitals. A new cottage hospital was provided last year at Ulster Spring, a district remote from existing hospitals. During 1911-12 and the ensuing year out-patients' departments have been established at all the hospitals, and in the latter year the number of out-patients attended to in the districts, in addition to those treated at the out-patients' departments of the hospitals, amounted to over 45,000. The medical expenditure since 1907-8 has increased by nearly 90 per cent., and in the current financial year nearly £11,000 has been provided for new works, as against £522 at the beginning of the period. The answer to the last part of the question is in the negative, but special provision has been made to utilise the Government medical service for dealing with disease in such districts.

Medical Treatment of Insured Persons.

Mr. R. GWYNNE asked the Chancellor of the Exchequer whether his attention had been called to cases in which insured persons, on moving their residence, had been refused medical treatment by panel doctors on the grounds that they had recently had a touch of influenza and were therefore in need of a bottle of medicine; whether doctors, in so acting, complied with the Regulations which governed the administration of the sickness benefit under the National Insurance Act; and, if so, what steps insured persons were to take to obtain advice and medicine if all the local doctors on the panel act similarly.—Mr. WEDGWOOD BENN (who replied) said: No cases of the kind referred to have come to the notice of my right honourable friend. Medical men on the panel have, of course, a right under the National Insurance Act, 1911, to refuse in the first instance to accept an individual insured person, but arrangements have been made whereby a medical man may be obtained by any insured person so refused. If the honourable gentleman knows of a case where the arrangement has been broken I shall be very glad to know about it.

The Cost of Medical Treatment.

Mr. F. HALL (Dulwich) in the course of a question addressed to the Chancellor of the Duchy asked whether the Treasury estimates of the cost of treating insured persons had been exceeded; whether there were enough funds in the case of the London Insurance Committee to give proper medical treatment to insured patients; and whether it had been suggested to the London County Council that half of the deficiency should be met out of the rates.—Mr. WEDGWOOD BENN (who replied) said: Under the arrangements entered into between Insurance Committees—including the London Insurance Committee—and the doctors on their respective panels, no deficit can occur upon the funds available for defraying their liabilities to those doctors, and the rest of the question does not therefore arise.

Sanatoria in Derbyshire.

Mr. THOMAS asked the Secretary to the Treasury whether the Insurance Commissioners had taken any steps to safeguard patients whom they were sending to sanatoria in Derbyshire against the infringement of the provisions of Subsection 2 (e) of Section 14 of the National Insurance Act by the managers of those institutions; and whether he would prohibit the payment of any money by the Insurance Committees to any sanatoria in Derbyshire the managers of which might refuse to respect conscience in the manner provided in the above-mentioned subsection.—Mr. WEDGWOOD BENN answered: The duty of making arrangements to provide treatment for tuberculous insured persons in institutions or otherwise and of considering cases with a view to recommendation for such treatment is by the Act laid upon Insurance Committees, not upon the Insurance Commissioners. The arrangements made by the Insurance Committees require the Commissioners' approval, and in no case do they impose any obligation upon insured persons to submit to vaccination as a condition of their being recommended for treatment.

Sickness in Cradley.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether his attention had been called to a report of a Worcestershire Insurance Subcommittee on the sickness in Cradley, in which statements of Mr. Appleton, secretary to the General Federation of Trade Unions Approved Society, were admitted to the effect that the sickness-rate amongst female workers in the district was enormous and was between 6 per cent. and 7 per cent., or three times the normal; and whether, if this rate was continued until the first valuation, it would entail a very heavy levy on, or a reduction of benefits to, the compulsorily insured members.—Mr. WEDGWOOD BENN said in reply: My right honourable friend has seen the report, but it does not appear that the figures have been tested. In any case since Approved Societies or branches of societies and not geographical districts are the units for valuation purposes, the benefits of insured persons resident in Cradley district will be governed after the first valuation (subject to the provisions of the Act for pooling surpluses and deficiencies) by the general experience of the different Approved Societies or branches of which they have respectively become members.

Sanatorium Benefit in Fife.

The Marquis of TULLIBARDINE asked the Secretary to the Treasury how many persons had applied for sanatorium benefit in the county of Fife since Oct. 15th, 1913; and how many of these had received it under the provisions of the National Insurance Act, including any applicants whose applications were standing over at the date mentioned.—Mr. WEDGWOOD BENN (who replied) said: The answer to the first part of the noble lord's question is 48. Five applications were outstanding at the date which he mentions and 49 persons have received treatment since that date.

A Case of Anthrax Poisoning.

Mr. C. BATHURST asked the Home Secretary whether his attention had been directed to a recent inquest upon a waterside labourer who died in Guy's Hospital on Dec. 21st last from anthrax poisoning, at which the jury, in returning a verdict of accidental death from such poisoning, expressed the opinion that the Home Office should extend the regulations of the Factories and Workshops Act, which applied only to anthrax in factories and workshops, to wharves and other places where horsehair, hides, skins, and pigs' bristles were dealt with; whether he was aware that the Departmental Committee on Foot-and-Mouth Disease recently called attention to the danger of such substances, unless effectively disinfected, becoming carriers of anthrax and other animal diseases; and whether he proposed as the result of the above fatality to take any action in the direction suggested by the coroner's jury.—Mr. MCKENNA said in reply: The answer to the honourable Member's first two questions is in the affirmative. The rules referred to cannot be extended in their present form to wharves or to any place other than factories and workshops because they were made under the old Factory Act of 1891, which applied only to factories and workshops, but I hope to be able shortly, when certain inquiries now on hand have been completed, to replace those rules by fuller regulations under the Factory and Workshop Act of 1901, and the question of applying these regulations to wharves and warehouses where the danger may arise will receive very careful consideration.

Mr. C. BATHURST: Does the right honourable gentleman realise the importance of greater coöperation between the Home Office and the Board of Agriculture in respect to fatal diseases which are common both to animals and men?—Mr. MCKENNA: Yes, certainly.

THURSDAY, FEB. 19TH.

Approved Societies and Benefits to Women.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether one of the consequences of a threatened

deficiency of Approved Societies under the National Insurance Act was the refusal of benefits by some societies to women who were certified as incapable of work owing to pregnancy; and, if so, what steps the Commissioners and the Government were taking in the matter.—Mr. WEDGWOOD BENN (who replied) said: Societies are responsible for determining in the first instance whether an insured person claiming sickness benefit satisfies the conditions of Section 8 (i.) (c) of the Act of 1911 of 'being rendered incapable of work by specific disease or disablement. The Commissioners have no reason to think that societies are refusing benefit in cases where they consider that this condition is satisfied.

Mr. G. LOCKER-LAMPSON: Is the honourable gentleman aware that one of the medical referees has reported to the London Insurance Committee that this is being done?—Mr. WEDGWOOD BENN: No, sir. I shall be glad if the honourable gentleman will give me the statement made by the medical referee.

County Councils and the Treatment of Tuberculosis.

Replying to Mr. G. LOCKER-LAMPSON, Mr. HERBERT SAMUEL (President of the Local Government Board) said: The great majority of county councils and councils of county boroughs in England have submitted schemes for the provision of institutional treatment of tuberculosis, which treatment will be available for all classes of the community. In some few instances the schemes are at present limited to the provision of dispensary treatment. Six county councils out of 50 and seven councils of county boroughs out of the total of 75 have not yet submitted proposals, and the department is in communication with these authorities. I understand that proposals will shortly be submitted by the London County Council for providing additional sanatorium accommodation.

Mr. LOCKER-LAMPSON further asked whether in some districts no accommodation was available for advanced cases of tuberculosis among insured persons under the National Insurance Act.—Mr. HERBERT SAMUEL answered: In some districts there is insufficient accommodation at present for advanced cases of tuberculosis, but it will be gathered from the answer I have just given that county and county borough councils generally are taking steps to provide additional accommodation for such cases as part of their schemes for the institutional treatment of the disease in all classes of the community. The question is receiving my immediate attention.

Sir RANDOLF BAKER asked the right honourable gentleman to state how many county councils had built sanatoria since the coming into operation of the National Insurance Act and how many had taken no steps beyond the provision of dispensary treatment.—Mr. HERBERT SAMUEL replied: County councils are providing the necessary sanatorium accommodation in various ways. Nine county councils have already acquired existing buildings or provided new buildings, eight have acquired beds at existing institutions and are arranging for extensions to be provided for the use of the council, and ten have purchased or propose to purchase sites for the erection of new buildings. The other councils which propose to provide sanatorium accommodation as part of their schemes have not yet definitely decided in what way the accommodation shall be provided. Only seven of the councils have limited their schemes for the present to dispensary treatment.

Progressive Decline of the Birth-rate.

Sir WALTER ESSEX asked the Prime Minister whether he had in contemplation an inquiry by a Commission or otherwise into the progressive decline in the birth-rate in the United Kingdom.—Mr. ASQUITH answered: I understand that the matter is the subject of an inquiry on which the Local Government Board and the General Register Office are represented. It does not, therefore, seem that any further inquiry is necessary at present.

Returns on Industrial Poisoning.

Mr. NOEL BUXTON asked the Home Secretary whether the cases of industrial poisoning which appeared under the head of diseases of occupation in the Board of Trade *Labour Gazette* included only those furnished by the certifying surgeons; whether there were a certain number of cases in which the medical referee overrode the decision of the certifying surgeon; whether a corrected list would show a difference in the number of cases of industrial poisoning; whether the figures in the Board of Trade *Labour Gazette* were invalidated by the absence of any reference to the decisions of the medical referee; and whether the figures as modified by the medical referee's decision appeared in any other return.—Mr. MCKENNA replied: The returns of industrial poisoning to which the question refers include all cases whether reported by the certifying surgeon, by medical practitioners, or by occupiers. It occasionally happens that the certifying surgeon's opinion is subsequently overruled by the medical referee. So far as practicable allowance has been made for these cases in the annual return published in the January number of the *Gazette*, but the cases are so few as not to affect the substantial accuracy of the monthly returns.

Vaccination in the Navy.

Mr. WILLIAM THORNE asked the President of the Local Government Board whether the calf vaccine lymph used for the Navy was supplied by his department; whether he was aware that according to the annual reports of the health of the Navy the cases of cow-pox placed on the sick list in consequence of vaccination, which were 233 in 1908, had increased to 482 in 1909, to 688 in 1910, to 845 in 1911, and to 1255 in 1912; whether he could give any explanation of these increases of the ill effects of the operation; and whether he would consider the advisability of suspending the issuing of vaccine lymph until such time as there was a considerable improvement upon the present variety.—Mr. HERBERT SAMUEL replied: The answer to the first two parts of the question is in the affirmative. As regards the third part of the question, I understand that the increase in the number of cases placed on the sick list is due chiefly to the much greater care now exercised in preventing the possibility of untoward occurrences following on vaccination. With this object in view men and boys are now in a greater number of cases recorded as being on the sick list after vaccination, and are consequently excused from duty for a few days. The character of the lymph supplied has no bearing on the question, and I see no reason for any alteration of the present procedure.

Hop Substitutes in Brewing.

Mr. HERBERT LEWIS (Parliamentary Secretary to the Local Government Board) informed Mr. ROWLANDS that it was not proposed to reintroduce this session the Bill to prohibit the use of hop substitutes in brewing.

MONDAY, FEB. 23RD.

Sanatorium Benefit.

Mr. WEDGWOOD BENN informed Mr. GODFREY LOCKER-LAMPSON that a return on the subject of the administration of sanatorium benefit was in course of preparation and would shortly be laid before the House.

Insured Persons and the Selection of Medical Men.

Replying to Mr. BUTCHER, Mr. WEDGWOOD BENN said: Under the Regulations issued under the National Insurance Act insured persons who had selected or had been assigned to a medical man in the course of last year are deemed to have selected that doctor for the current year unless they gave the notice required of their intention to make a fresh selection.

Insurance Drug Fund in Manchester.

Mr. GODFREY LOCKER-LAMPSON asked the Secretary to the Treasury whether there was a deficiency in the insurance drug fund in the Manchester district to the extent of about £16,000; and, if so, whether, in consequence, chemists on the panel had only been paid 50 per cent. of their accounts during the three latter months of 1913 and only about 27 per cent. for December, although it was one of their heaviest months; and what the Government proposed to do in the matter.—Mr. WEDGWOOD BENN replied: My right honourable friend is informed that the total sums already paid or in the course of being paid by way of advances amount to approximately 60 per cent. of the total amount of the accounts presented for this year. It is not, however, possible to estimate what further sums will be payable until those accounts have been scrutinised in accordance with the Regulations and the total sums available to the Insurance Committee for the purpose have been finally ascertained.

Distribution of Insurance Funds.

Colonel GREIG asked the Secretary to the Treasury whether the accumulated funds in the hands of the Insurance Committees in Scotland, arising from payments for medical benefit for insured persons who had not yet claimed or did not desire to claim a panel doctor, were to be distributed among the existing panel doctors or to be otherwise applicable and, if so, how; whether any regulation had been laid down in London or elsewhere for the application of such funds; and whether such regulation was applicable in Scotland.—Mr. WEDGWOOD BENN wrote in reply: Both in Scotland and elsewhere in Great Britain the whole of the sums available to a committee in respect of the responsibility for the treatment of those insured persons (including the persons referred to in the question) who have not been allowed or required to make their "own arrangements" and who have not selected an approved system or institution are payable, under the regulations and the agreements entered into between committees and doctors, to the doctors on the panel upon whom that responsibility devolves.

TUESDAY, FEB. 24TH.

Distribution of Insurance Funds.

Sir HENRY CRAIK asked the Secretary to the Treasury why the amount accruing in respect of insured persons who had not chosen a doctor, and had not been assigned to any doctor

on the panel, had not been distributed by the London Insurance Committee.—Mr. WEDGWOOD BENN replied: My right honourable friend understands that the matter of the distribution of funds is receiving the attention of the London Insurance Committee.

Excessive Sickness at Cradley.

Mr. GODFREY LOCKER-LAMPSON asked the Chancellor of the Exchequer whether he was aware that certain members of the county of Worcester Insurance Committee recently held an inquiry into an alleged shortage of doctors in Cradley; that the inquiry disclosed excessive sickness; and that the doctors alleged at the inquiry that some Approved Societies, to help themselves out of the difficulty of inevitable insolvency, were refusing to give sickness benefit for certain diseases, a list of which had been made out and included gout and bronchitis; and seeing that the societies' members were thereby necessarily suffering, whether the Government proposed to make a grant to the societies concerned, so that the members might obtain their rights, and the fears of insolvency with levies or decreased benefits might be removed.—Mr. WEDGWOOD BENN (who replied) said: The answer to the first part of the question is in the affirmative. As regards the second and third parts, the subcommittee referred to reported that they had no means of confirming the allegations and expressed no opinion upon them. The remaining part of the question does not therefore arise.

Machine-Skimmed Condensed Milk.

Mr. BARNSTON asked the President of the Local Government Board whether he intended to issue an order, under the Public Health (Regulations as to Food) Act, 1907, regulating the sale of machine-skimmed condensed milk, or whether he would take any other action to give effect to the recommendations contained in Dr. Coutts's Report to the Local Government Board on the use of condensed milks as infants' foods in August, 1911.—Mr. HERBERT SAMUEL answered: The question of making regulations on the subject referred to is now under consideration, but I am not yet in a position to make a statement on the matter.

WEDNESDAY, FEB. 25TH.

Allocation of Insured Persons.

Mr. BUTCHER asked the Secretary to the Treasury whether he was aware that the allocation of insured persons to a doctor who had not been selected by them had given and was giving rise to discontent and dissatisfaction; whether surprise and dissatisfaction had been caused by the interpretation which had been placed by the National Insurance Commissioners on Form 110/I.C. to the effect that a person who had been allocated to a doctor whom he had not selected was deemed to have selected that doctor; and whether the Commissioners would issue, or cause to be issued, to insured persons a circular instructing them what steps they should take if they wished to change the doctor whom they had not selected but to whom they had been allocated.—Mr. WEDGWOOD BENN (who replied) said: Under the Regulations now in force no allocation is carried out, except upon the application of insured persons themselves. It was open to insured persons who were allocated to doctors last year to change their doctor at the end of the year by giving the necessary notice, and every opportunity was taken of bringing to the knowledge of insured persons their rights in this respect. It is still open to insured persons who omitted to take the necessary steps last year and who now desire to change their doctor to do so by consent, and the medical card issued to insured persons already on the lists of doctors contains full instructions on the subject.

BOOKS, ETC., RECEIVED.

ALBIN MICHEL, Paris.
Le Passe Anecdotique. Hygiène de nos Aïeux, with 66 illustrations.

BAILLIÈRE, TINDALL, AND COX, London.
Aids to Medicine. By Bernard Hudson, M.D. Cantab., M.R.C.P. Lond. Second edition. Price 3*s.* 6*d.* net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.
Health Preservation in West Africa. By J. Charles Ryan, L.R.C.P.I., L.M., L.R.C.S.I., L.M., Diplomate in Tropical Medicine, University, Liverpool; late M.O., West African Medical Staff. With Introduction by Sir Ronald Ross, K.C.B., F.R.S., Nobel Laureate, M.D. Price 5*s.* net.

BROTHERHOOD PUBLISHING HOUSE, Holborn Hall, Clerkenwell-road, London.
To Every Man in England. The Campaign Handbook of the National Brotherhood Council. Price 6*d.*

GLAISHER, HENRY J., 55-57, Wigmore-street, London, W.
Time and the Timeless. Songs of Shadow and of Hope. By A Physician. Price 2*s.* 6*d.* net.

KING, P. S., AND SON, London.
The Problem of the Continuation School and its Successful Solution in Germany. By R. H. Best and C. K. Ogden, B.A. Price 1*s.* net.

LIVINGSTONE, E. AND S., Edinburgh.
Fellowship Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh, for several years. Price 1*s.* net.
Dental Examination Papers for the Diplomas of the Royal College of Surgeons and the Royal Faculty of Physicians and Surgeons, Glasgow, for several years. Price 1*s.* net.

LEWIS, H. K., London.
The Road to a Healthy Old Age. Essays Lay and Medical. By Thomas Bodley Scott. Price 2*s.* 6*d.* net.

MALOINE, A., Paris.
Principes d'Anacousie (Rééducation Auditive). Par A. Zünd-Burguet, Preface du Professeur M. C. Gariel.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BANISTER, J. BRIGHT, M.D. Cantab., M.R.C.P. Lond., F.R.C.S. Edin., has been appointed Surgeon to Out-patients at the Chelsea Hospital for Women.

BELL, J. T., M.B., B.Ch. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the High Wycombe District of the county of Buckingham.

BENNETT, H., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Billingshurst District of the county of Sussex.

BHUTTACHARJI, J. C., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Arnesby District of the county of Leicester.

CARLILL, HILDRED B., M.D. Cantab., M.R.C.P. Lond., has been appointed Physician to Out-patients at the City of London Hospital for Diseases of the Chest.

DAVIDSON, H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Teddington District of the county of Middlesex.

GILL, D. M., M.B., C.M. Aberd., has been appointed Medical Officer to the Fleetwood Council.

HAMILTON, Captain A. F., I.M.S., has been appointed Clinical Assistant at the Chelsea Hospital for Women.

MCCOWEN, Major W. T., I.M.S., has been appointed Clinical Assistant at the Chelsea Hospital for Women.

MARTIN, THOMAS HARTLEY, M.B., Ch.B. Liverp., has been appointed Resident Medical Officer at the Leasowe Sanatorium for the Treatment of Surgical Tuberculosis in Children, Leasowe, Cheshire.

O'SULLIVAN, J. E., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Charlestown District of the county of Mayo.

SHERA, A. G., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Assistant Medical Officer at the Fulham Infirmary, Hammersmith, W.

WALSH, J., has been appointed Medical Officer to the Midleton Union Hospital, Cork.

WHITE, HILL WILSON, M.B., B.Ch., B.A.O. Nat. Univ. Irel., L.M. Rotunda, has been appointed Assistant Medical Superintendent of the Paddington Infirmary, W.

WILSON, IVAN S., M.D., Ch.B. New Zealand, F.R.C.S. Eng., has been appointed House Surgeon at the Chelsea Hospital for Women.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and laundry.

BIRMINGHAM AND MIDLAND HOSPITAL FOR NERVOUS DISEASES, Bath-row, Birmingham.—Physician to Out-patients.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £220 per annum, with apartments, fire, light, and attendance.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM AND ANTITUBERCULOSIS CENTRE, Broad-street.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board and residence.

BLACKBURN COUNTY BOROUGH EDUCATION COMMITTEE.—School Medical Inspector and Assistant to Medical Officer of Health. Salary £300 per annum.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant (Third) Medical Officer, unmarried. Salary £220 per annum, with apartments, attendance, laundry, &c.

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer as House Physician for first six months and House Surgeon during ensuing six months. Salary at rate of £30 and £100 per annum respectively, with board, lodging, and washing.

CATERHAM ASYLUM, Caterham, Surrey.—Senior Assistant Medical Officer. Salary £300 per annum, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C.—Assistant Surgeon.

CHARING CROSS HOSPITAL.—Obstetric Registrar.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar. Salary £40 per annum.

CHESHIRE EDUCATION COMMITTEE.—Fourth Assistant to the Chief School Medical Officer. Salary £350 per annum.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £90 per annum, with residence and maintenance.

CITY OF WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing.

COUNTY OF LONDON, THE LONDON COUNTY COUNCIL.—Ten Temporary Medical Assistants in Public Health Department. Salary £400 per annum each. Also Twelve Quarter-time School Doctors. Salary £132 per annum each.

COVENTRY EDUCATION COMMITTEE.—School Dentist. Salary £300 per annum.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY, NEW DEPARTMENT FOR THE EYE, EAR, NOSE, AND THROAT.—Honorary Surgeon.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £125 per annum, with residence, board, and laundry.

DURBAN MUNICIPALITY.—Assistant Medical Officer of Health. Salary £600 per annum.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer to Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea. Also House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, laundry, &c.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's-buildings, Holborn Circus, E.C.—Resident Medical Officer. Salary £100 per annum, with rooms, attendance, fire, and lighting.

FOLKESTONE, ROYAL VICTORIA HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

GLOUCESTER, BARNWOOD HOUSE HOSPITAL FOR MENTAL DISEASES.—Second Assistant Medical Officer. Salary £250 per annum, with board, &c.

GREENWICH, DREADNOUGHT HOSPITAL.—Medical Registrar. Salary £100 per annum, with luncheon. Also Assistant Physician.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HAMPSTEAD AND NORTH-WEST LONDON HOSPITAL.—Clinical Assistants at Out-patients' Department, Bayham-street, for six months.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Pathologist. Salary £25.

HUNTINGDONSHIRE COUNTY COUNCIL.—Assistant County Medical Officer and Assistant School Medical Officer (female). Salary £250 per annum.

INFECTIOUS HOSPITALS SERVICE OF METROPOLITAN ASYLUMS BOARD.—Junior Assistant Medical Officers, unmarried. Salary £180 per annum, with board, lodging, and washing.

KING EDWARD VII.'S SANATORIUM, Midhurst, Sussex.—First Assistant Medical Officer. Salary £200 per annum, with board, lodging, and attendance.

LANCASHIRE COUNTY COUNCIL AND COUNTY BOROUGH OF BURY JOINT COMMITTEE, Bury.—Joint Tuberculosis Officer. Salary £400 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry. Also Honorary Pathologist.

LEEDS UNIVERSITY.—Demonstrator in Bacteriology. Salary £250 per annum.

LEICESTERSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £250 per annum.

LONDON HOMŒOPATHIC HOSPITAL, Great Ormond-street and Queen-square, Bloomsbury, W.C.—Assistant Pathologist. Salary £50 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Two Resident House Physicians and Resident House Surgeon for six months. Salary £30 in each case, with board and lodging.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Three House Surgeons and Two House Physicians for six months. Salary at rate of £60 per annum, with board and residence.

LONDON LOCK HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, near Manchester.—Resident Medical Officer, unmarried. Salary at rate of £100 per annum.

MANCHESTER CHILDREN'S HOSPITAL (OUT-PATIENTS' DEPARTMENT), Gartside-street, Manchester.—Assistant Medical Officer for six months. Salary £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST, CROSSLEY SANATORIUM, Delamere Forest, Cheshire.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents at Central Branch for six months. Salary at rate of £100 per annum, with board and residence.

MARGATE, ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £150 per annum for first six months, and £200 per annum for second six months, with board, residence, and laundry.

NEWCASTLE-UPON-TYNE, HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Physician.

NOTTINGHAM, CITY OF.—Resident Assistant Medical Officer, unmarried, for Bagthorpe Institution and Infirmary for six months. Salary at rate of £165 per annum, with apartments, &c.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

OLDHAM ROYAL INFIRMARY.—Third House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and laundry.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROYAL AUSTRALIAN NAVY.—Two Surgeons. Rates of pay on entry £387 16s. 3d. per annum.

ROYAL EAR HOSPITAL, Soho.—Honorary Assistant Administrator of Anæsthetics.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Honorary Anæsthetist.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five Appointments.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Pathologist and Bacteriologist for three days a week.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

ST. MARYLEBONE INFIRMARY, Rackham-street, Notting Hill, W.—Third Assistant Medical Officer, unmarried, for six months. Salary £50, with apartments, rations, and washing.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, lodging, and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

SUNDERLAND ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

UNIVERSITY COLLEGE HOSPITAL, Gower-street, London, W.C.—Assistant Surgeon.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

WEST AFRICAN MEDICAL STAFF.—A number of Appointments. Salary £400 per annum.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Dental Surgeon.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Radiographer.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians, Three House Surgeons, and Resident Casualty Officer for six months. Board, lodging, and laundry allowance provided.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at rate of £125 per annum, with board, rooms, and laundry.

WOOLWICH INFIRMARY, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

Births, Marriages, and Deaths.

BIRTHS.

COOPER.—On Feb. 18th, at Lansdowne, Hampton, Middlesex, the wife of Harold Merriman Cooper, M.B., of a daughter.

MARRIAGES.

FLUMERFELT—JEFFERSON.—At Victoria, B.C., on Jan. 17th, 1914, Gertrude Flumerfelt, M.R.C.S., L.R.C.P., daughter of Mr. and Mrs. Flumerfelt, of Ruhebühne, Victoria, B.C., to Geoffrey Jefferson, M.S., F.R.C.S., elder son of Dr. and Mrs. Arthur Jefferson, of Rochdale, Lancs. (Dr. Gertrude Flumerfelt retains her own name and will practise under it.)

GILLIATT—KANN.—On Feb. 24th, at Weybridge, William Gilliatt, M.S., F.R.C.S., of 58A, Wimpole-street, W., to Anne Louise, eldest daughter of John Kann, of Lyne Hill House, Chertsey, Surrey.

DEATHS.

FENOULHET.—On Feb. 16th, at Durban Hospital, Natal, South Africa, Dr. James Peter Fenoulhet.

GARDNER.—On Feb. 15th, at Earl's Court-road, John Twiname Gardner, M.R.C.S., L.R.C.P., L.S.A., aged 59 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

TUBERCULOSIS IN BRITISH GUIANA.

ACCORDING to the seventh annual report of the British Guiana Society for the Prevention and Treatment of Tuberculosis, the society's work in that district is bearing good fruit. A new memorial dispensary to King Edward VII. has been erected by subscriptions and Government aid, and was opened in July, 1913. All the six measures recommended by the West Indian Intercolonial Conference on Tuberculosis, held at Trinidad in 1913—viz., notification, housing reform, tuberculosis dispensaries, measures against bovine tuberculosis, school instruction in sanitation and hygiene, and efficient vital statistics—are in operation in British Guiana. But for the expense in transferring patients to the new dispensary the receipts would have exceeded the expenditure; as it is, they fall a trifle below it. Phthisis mortality has shown considerable reduction in the past two years, the death-rate from phthisis per 1000 persons living from January to September, 1913, for the whole colony being 1·3. Gratuitous examination of all persons, irrespective of race, creed, colour, or financial status, has been afforded and attendance and medicine supplied free to those suffering from tuberculosis. The number of persons attending the dispensary has progressively increased from 828 in 1908 to 1277 in 1913, but the percentage found to be tuberculous has decreased from 14·5 in 1908 to 8·8 in 1913. The services of the lady visitors are highly commended.

MEDICAL CERTIFICATES FOR SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—Can any of your readers give me particulars of the case which was decided last year, somewhere in Hampshire I think, on the question of the claim by local education authorities for medical certificates for sick school children.

I have always refused on principle to give such certificates, and from time to time the attendance officers are very troublesome to the parents, and in one case just now are threatening to issue a summons. The parents have written to the education authority saying the child is seriously ill with endocarditis, but no notice is taken of the letter. I maintain that it has no power to demand medical certificates for school children, and I know that in the case I have referred to the court took this view, but I have forgotten where the case was fought and other details, and should be glad to have my memory refreshed.

The medical attendant in this case took the same view which I hold, and fought the case for the parents.

I am, Sir, yours faithfully,

Feb. 10th, 1914. E. D.

*** A test case, apparently the one referred to, was recorded in THE LANCET of March 9th, 1912, p. 685.—ED. L.

SCHOOL MEDICAL OFFICERS AND THE D.P.H.

To the Editor of THE LANCET.

SIR,—No diploma exists which is an absolute guarantee that a man is fitted to act as medical officer to schools. I submit that a competent knowledge of the subjects which should make a man fill such a position with credit and usefulness should for the future be demanded from all candidates for the D.P.H.

I am, Sir, yours faithfully,

J. C. MCWALTER, M.B. Dub., M.D. Dunelm.

Dublin, Feb. 23rd, 1914.

"THE BISMUTH MEAL."

IN an article in *L'Actualité Médicale*, giving a historical review of the progress of the radiological examination of the stomach and intestine, Dr. Foveau de Courmelles points out that this method of examination was first investigated by French observers. He himself first drew attention to the subject in May, 1897, in the *Traité de Radiographie Médicale et Scientifique*, and was later followed by Buguet, Boudet, Roux, and Balthazard. This was followed by de Courmelles in *L'Annuaire des Inventeurs* in 1899, in which he pointed out that the opaque meal was rendered necessary by the opacity of the organs surrounding the stomach; and that with its help he had successfully studied the movements of digestion in animals, and in man had observed, by the same means, a pyloric stricture associated with a duodenal new growth, the examination being made 1½ hours after an opaque meal containing 6 grammes of bismuth. He also made many experiments on himself with various quantities of bismuth varying from 20 to 50 grammes, the results being studied on a fluorescent screen. Since 1897 he has returned to the subject by means of papers and lectures. It was not until the year 1905 that this method of examination became systematised, seven years after his first researches, under the name of "the bismuth meal" or "Rieder's meal," and against this he registers an emphatic protest.

AN IMPROVED PELVIMETER.

To the Editor of THE LANCET.

SIR,—Referring to the instrument described in your issue of Feb. 21st by Dr. Gordon Copeland, we beg to state that we have supplied a pelvimeter graduated in the metric scale as well as in inches for some years past. We know also that other instrument houses have been doing the same. There is a very nice pattern on the market known as Collyer's.

We are, Sir, yours faithfully,

ALLEN AND HANBURYS, LIMITED
(HENRY LEWIS, Manager).

Wigmore-street, W., Feb. 24th, 1914.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. H. Wager: The Action of Light on Chlorophyll.—Mr. C. H. Warner: Formaldehyde as an Oxidation Product of Chlorophyll Extracts (communicated by Prof. V. H. Blackman).—Mr. F. Kidd: The Controlling Influence of Carbon Dioxide in the Maturation, Dormancy, and Germination of Seeds (communicated by Dr. F. F. Blackman).—Mr. J. Hammond and Mr. F. H. A. Marshall: The Functional Correlation between the Ovaries, Uterus, and Mammary Glands in the Rabbit; with Observations on the Oestrous Cycle (communicated by Dr. F. G. Hopkins).—Dr. J. F. Gaskell: Chromaffine System of Annelids and the Relation of this System to the Contractile Vascular System in the Leech, Hirudo Medicinalis (communicated by Dr. W. H. Gaskell).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY: SUB-SECTION OF ORTHOPÆDICS (Hon. Secretaries—A. S. Blundell Bankart, E. Rock Carling): at 4.30 P.M.

Mr. J. E. H. Roberts: Case of Calvé's Pseudo-coxalgie.

Mr. Max Page: Case of Astragalectomy for a Malunited Fracture-Dislocation of the Ankle.

Mr. A. S. Blundell Bankart: (1) Bilateral Charcot's Disease of Tarsus; (2) Macrodactyly and Anterior Metatarsalgia; (3) Recovered Birth Paralysis with Residual Subluxation of the Shoulder-joint; (4) Ankylosis of the Temporo-maxillary Joint.

Mr. Laming Evans: Case of Scoliosis associated with Myopathic Paralysis.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

Laboratory Meeting at the Lister Institute, Chelsea Gardens, S.W.

Dr. Penfold: The Agglutination of Red Cells by Bacteria.

Dr. Sherwin: Complement-fixation Reactions in Eclampsia.

Dr. Dalyell: The Isolation of Certain Intestinal Anærobes in Pure Culture.

Dr. Ledingham: A Problem in Bacterial Variation.

Dr. Arkwright: Observations on Cat-distemper (so-called Show-fever).

Dr. Schütze: Cataphoresis Experiments with Leucocytes.

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Mr. Wm. Buckler and Professor Richard Caton will show: (1) A Find of Surgical Instruments recently made at Colophon in Asia Minor; (2) Collection of Greek and Roman Surgical Instruments made by the late Dr. J. Stewart Milne.

Dr. Dan McKenzie: Healing Wells and Waters, with a Suggestion as to the Origin of the Votive Offering (illustrated).

Dr. Parkes Weber: Art and Epigram in Science and Medicine in Relation to Death (illustrated).

Mr. Glanvill Corney, I.S.O.: Some Physiological Phantasies of Third Century Repute.

Dr. Fielding H. Garrison: A Relic of the King's Evil in the Surgeon-General's Library (Washington, D.C.).

SECTION OF NEUROLOGY, SECTION OF OPHTHALMOLOGY, and SECTION OF OTOLOGY: at 8.30 P.M. — Combined Meeting.

Discussion:

On Nystagmus (will be re-opened by Dr. Llewellyn, and Dr. Dan McKenzie, Dr. Wilfred Harris, Dr. S. A. K. Wilson, and others will speak).

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 5 P.M.

Epidiascope Demonstration:

Dr. Louis W. Sambon: Cutaneous Diseases Prevalent in the West Indies.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure): at 5.30 P.M.

Paper:

Dr. J. Barnes Burt (Buxton): The Production of Osteophytes and Exostoses in Chronic Gout and Arthritis Deformans (illustrated by X Ray Photographs and Pathological Specimens).

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Specimens:

Dr. T. G. Stevens: Cast from the Unimpregnated Horn of a Uterus Didelphys.

Dr. Cuthbert Lockyer: Multiple Myomectomy at the Fifth Month of Pregnancy followed by Labour at Term.

Dr. Victor Bonney: (1) An Ovarian Dermoid Cyst Expelled through the Rectum during Labour; (2) A Rare Case of Hernia into the Umbilical Cord; (3) Simultaneous Carcinomatous Growths in the Body of the Uterus and in the Cervix.

Dr. Drummond Maxwell: (1) Fibroid Uterus Removed in the Third Stage of Labour; (2) Defective Ossification of an Infant's Head.

Short Communications:

Dr. Herbert Williamson and Dr. Charles Noon: An Unusual Case of Chorionepithelioma (from the Gynæcological Department of St. Bartholomew's Hospital).

Dr. J. Barris: The Treatment of Pregnancy complicated by Morbus Cordis by Means of Cæsarean Section under Spinal Anæsthesia.

Paper:

Dr. T. W. Eden: A Case of Superior Recto-vaginal Fistula dealt with by an Abdominal Operation after Preliminary Colostomy, with Remarks on the Operative Treatment of this Condition.

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—E. A. Peters, Cecil J. Graham): at 5 P.M.

Cases:

Will be shown by Mr. H. J. Davis, Mr. W. Stuart-Low, and others.

(The set discussion on, and exhibition of cases illustrating, Intranasal Treatment of Frontal Sinusitis will be held on April 3rd. The discussion will be opened by Dr. Watson-Williams and Mr. Herbert Tilley.)

SECTION OF ANÆSTHETICS (Hon. Secretaries—H. E. G. Boyle, Cecil Hughes): at 8.30 P.M.

Discussion:

On Posture in Relation to General Anæsthesia (opened by Dr. W. J. McCardie).

Sir Frederic Hewitt, M.V.O., Mr. E. B. Waggett, Mr. Douglas Harmer, Mr. Ivor Back, Mr. Harold Barwell, and others, will take part.

MEDICAL SOCIETY OF LONDON, Whitehall Rooms, Hotel Metropole, W.C.

WEDNESDAY.—7.30 P.M., Anniversary Dinner.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Address:—Dr. A. E. Giles: Meditations Based on 1000 Abdominal Operations at the Prince of Wales's Hospital.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8.30 P.M., Paper:—Dr. H. Campbell: The Treatment of Syphilis of the Central Nervous System.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

SATURDAY.—8.30 P.M., Paper:—Deputy-Surgeon-General A. G. Wildey: Surgical Experiences in the Treatment of—(1) Compound Fractures; (2) Ununited Fractures; (3) Streptococcal Cellulitis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Milroy Lecture:—Dr. F. Shufflebotham: The Hygienic Aspect of the Coal Mining Industry in the United Kingdom. (Lectures IV. and V.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Arris and Gale Lecture:—Dr. D. Waterston: The Development of the Heart in Man in Relation to its Functional Activity (illustrated by reconstruction models and by microscopic and lantern projections).

WEDNESDAY, AND FRIDAY.—5 P.M., Arris and Gale Lectures:—Dr. F. Wood Jones: The Morphology of the External Genitalia of the Mammals. (Lectures I. and II.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. C. Semon: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. M. Latham: Diagnosis of Tuberculosis in the Absence of Tubercle Bacilli.

TUESDAY.—4 P.M., Dr. P. Parkinson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D'Oyly Grange: Eczema and its Relations.

WEDNESDAY.—4 P.M., Sir A. Pearce Gould, K.C.V.O.: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. J. Wethered: The Significance and Indication of the Temperature Chart in Pulmonary Tuberculosis.

THURSDAY.—4 P.M., Dr. K. Wilson: Clinique (Medical). 5.15 P.M., Lantern Demonstration:—Dr. A. G. Buchanan: Treatment by Psychotherapy and Other Means of Alcohol and Drug Habits.

FRIDAY.—4 P.M., Mr. W. Stuart-Low: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Armour: Difficulties in Abdominal Diagnosis and Treatment.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Armour: Difficulties in Abdominal Diagnosis and Treatment.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Armour: Difficulties in Abdominal Diagnosis and Treatment.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M. Lecture:—Dr. G. Stewart: Cases of Nervous Diseases.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. G. Stewart: Cases of Nervous Diseases.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. Banister). X Rays and Electrical Methods. 3 P.M., Demonstration of Selected Medical Cases (Dr. Chappel). 3.30 P.M., Medical In-patient (Dr. Whiting). 4.15 P.M., Demonstration of Selected Skin Cases (Dr. Meachen).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

MONDAY.—4.15 P.M., Dr. F. Warner: Training, Mental and Physical—Mental Hygiene.

Course of Lectures on Syphilology:—

TUESDAY, WEDNESDAY, AND FRIDAY.—4.15 P.M., Mr. J. Hutchinson: The Bones, Joints, Testis, Tongue, &c.

Lectures in Advanced Medical Subjects:—

WEDNESDAY—4.30 P.M., Dr. H. L. Tidy: The Pathological Excretion of Nitrogen by the Skin and the Resulting Changes in the Urine.

MIDDLESEX HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), Berners-street, W.

FRIDAY.—5.15 P.M., Dr. H. Beckton: The Action of Radium upon Animal Cells.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. H. S. Hartley: The Treatment of Febrile Cases of Pulmonary Tuberculosis.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

FRIDAY.—5 P.M., Lecture-Demonstration:—Dr. A. Jordan: Diagnosis of Pulmonary Tuberculosis by the Roentgen Rays.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. R. Russell: Hemiplegia.

FRIDAY.—3.30 P.M., Lecture:—Dr. R. Russell: Clinical Cases.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

FRIDAY.—4 P.M., Lecture Demonstration:—Dr. S. Owen: Clinical Significance of Enlargements of the Liver and Spleen in Infancy and Childhood.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.

Post-Graduate Lectures on the Diagnosis and Treatment of Cancer:—

WEDNESDAY.—5 P.M., Mr. Cunning: Tumours of Thyroid Gland.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. C. R. Kempster: X Rays. Other Skin Affections.

THURSDAY.—6 P.M., Dr. M. Dockrell: Ulerythema—I., Aphryogenes; II., Centrifugum; III., Sycosiformis.

LISTER INSTITUTE OF PREVENTIVE MEDICINE (UNIVERSITY OF LONDON), Chelsea Bridge-road, S.W.

TUESDAY AND FRIDAY—5 P.M., Prof. H. A. Minchin: The Protozoa Parasitic in Man. (Lectures XI. and XII.)

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers, Medical Practitioners, &c.:—

FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture VIII.:—Dr. C. Riviere: Treatment—Specific; Tuberculin.

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Dr. C. E. Lea: Palpitation.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Dr. W. Milligan: Suppurative Labyrinthitis and its Surgical Treatment.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Exhibition of Cases by Medical Staff.

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. T. M. Bride: Retinitis.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: The Varieties of Contracted Pelvis (continued). 11 A.M. Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: The Treatment of the Common Forms of Contracted Pelvis. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: The Operative Treatment of Backward Displacement of the Uterus (continued). 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

The following Congresses, Conferences, and Exhibitions are announced. in 1914:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.

„ 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage. Bruxelles.)

„ 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.

„ 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.

„ 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.

„ 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.

June 18th–24th (London, Church House, Westminster).—International Conference on the Blind.

July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.

„ 8th–10th (Oxford).—Ophthalmological Congress.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 25th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 19	29·48	W.	0·06	57	48	36	39	41	Cloudy
„ 20	29·64	S.W.	0·01	75	51	40	40	41	Fine
„ 21	29·26	S.W.	0·11	55	47	41	41	43	Fine
„ 22	28·59	S.	0·52	77	50	41	40	42	Cloudy
„ 23	29·05	S.W.	...	81	51	38	39	41	Fine
„ 24	29·33	S.E.	...	73	50	40	40	40	Foggy
„ 25	29·79	N.E.	...	65	44	36	36	37	Overcast

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THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given in THE LANCET of Dec. 27th, 1913.

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